


The Afghanistan Engineering Support Program assembled this deliverable. It is an approved, official USAID document. Budget information contained herein is for illustrative purposes. All policy, personal, financial, and procurement sensitive information has been removed. Additional information on the report can be obtained from Firouz Rooyani, Tetra Tech Sr. VP International Operations, (703) 387-2151.

<b>Site Visit Report</b>	Project: <b>Andkhoy Bus Terminal Construction</b>
Location: <b>Faryab Province</b>	Coordinates: Latitude: <b>N 36° 56' 42"</b> Longitude: <b>E 65° 8' 56.1"</b>
Inspection Date: <b>November 9, 2013</b>	Weather: <b>Partly Cloudy, Temp @ 23°C, No Precipitation</b>
Inspectors: 	Status: <b>Incomplete</b>

#### PRESENTED TO

United States Agency for International Development (USAID)  
Office of Economic Growth and Infrastructure (OEGI)

**RampUP North**

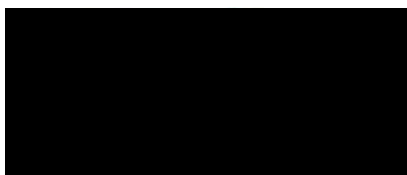
Great Massoud Road  
Kabul, Afghanistan

#### PRESENTED BY

**Tetra Tech, Inc.**  
**Afghanistan Engineering Support Program**  
**Contract No. EDH-I-00-08-00027-00**  
**Task Order No. 1**

**Work Order WO-LT-0009 AMD #5**

Shash Darak  
Kabul, Afghanistan



Date: **02/01/14**

Title: **Deputy Chief of Party**

#### EXECUTIVE SUMMARY

The goal of this project is to construct a new Bus Terminal for use by the residents of Andkhoy District. The entire population of Andkhoy Municipality is direct beneficiaries, including the passengers from Andkhoy and neighboring provinces that will be using the bus terminal on a daily basis. The construction of this bus terminal and parking lot will address the problem of traffic jams in the municipality. The public latrine that will be constructed as part of the project will improve public health and hygiene.

On November 09, 2013, two engineers from Tetra Tech (Tt) Afghanistan Engineering Support Program traveled to Faryab province to inspect and evaluate the visible completed works of the Andkhoy Bus Terminal construction. At the time of this inspection, Tt determined USAID's portion of the construction work for the Andkhoy Bus Terminal is well underway, but incomplete. The contractor's remaining work consists of the installation of the steel fence on the top of boundary wall, pointing of the stone masonry wall, construction of the Reinforce Cement Concrete (RCC) ring on top of the stone masonry wall, installation of the main gates, bus terminal roof work, installation of the steel net, construction of RCC drainage, construction of the sidewalks, construction of the Waiting Hall roof and installation of the metallic benches. The Andkhoy Municipality's portion of the construction work has not been started yet. The Municipality's work consists of construction of four (4) cabins latrine - two (2) cabins for women and two (2) for men, construction of water well to a depth of 50 meter and construction of seven (7) shops and one (1) restaurant.

#### DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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#

This report was prepared for the United States Agency for International Development, Contract No. EDH-I-00-08-00027-00, Task Order 01, Afghanistan Engineering Support Program.

## 1.0 INTRODUCTION

The Bus Terminal is located in Andkhoy district, Faryab province. Andkhoy with an estimated population of 30,300 residents (15,200 men and 15,100 women) is one of the key cities in Afghanistan's northern region. People travels from and to Sheberghan, Mazar, Kabul and other provinces and districts. The city does not have a bus terminal and travelers are forced to stand in open areas during the winter and summer for hours without access to any facilities, such as public latrines, seating areas, or parking lots, which cause traffic jams and road accidents. On February 12, 2013, a joint meeting of Andkhoy citizens and the municipality representatives was held to identify Round 1 projects.

The participants prioritized and selected the construction of a bus terminal as the first priority of the Andkhoy Municipality. The construction of this bus terminal and a parking lot will address the problem of traffic jams in the municipality, and the public latrine that will be constructed as part of the project will improve public health and hygiene.

The direct beneficiaries are the entire population of Andkhoy Municipality including the estimated 500 passengers from Andkhoy and neighboring provinces that will be using the bus terminal on a daily basis.

USAID's budget contribution with the municipality for construction of this Bus Terminal includes:

- Site preparation, including cutting, normal filling with a thickness of 30cm, base course placement of 20cm thick, leveling, watering and compaction of 5461 m<sup>2</sup>;
- Construction of boundary wall total length of 291m;
- Construction of a 317.82 m<sup>2</sup> Bus Station;
- Construction of a 123.57 m<sup>2</sup> Waiting Hall for Travelers; and
- Construction of 64.88 m<sup>2</sup> of sidewalks and construction of 44.73 m RCC drainage.

Andkhoy Municipality's contribution includes:

- Construction of four (4) cabins latrine - two (2) cabins for women and two (2) for men in 36.9m<sup>2</sup> of land;
- Construction of water well to a depth of 50m and 12 inch diameter; and
- Construction of seven (7) shops in 105m<sup>2</sup> land and construction of one (1) restaurant in 60m<sup>2</sup> of land.

The construction of the bus terminal was also basically intended for the following purposes:

- Improve communication and relationships between the Mayor/municipal officials and citizens.
- Improve the participation of citizens in decision-making processes related to the planning, design, implementation, and monitoring of municipal services.
- Improve and increase the level of service delivery in terms of bus terminals.
- Improve the public's perception of the municipality's ability to deliver sustainable services.
- Increase revenue generation and the sustainability of municipal service delivery from a public private partnership to operate the bus terminal.
- Improve public health and the cleanliness of the environment for travelers using the bus terminal.
- Reduce traffic congestion and traffic accidents.

## 2.0 SITE VISIT

Two engineers from Tetra Tech's (Tt) Afghanistan Engineering Support Program reviewed the project documentation for the Bus Terminal and traveled to Andkhoy / Faryab **province** on November 09, 2013 to evaluate the visible completed works. The provided project documentation included Plans, sections, detail 2D and 3D drawings in (Appendix A), BoQ in (Appendix B) and Proposal in (Appendix C). The Tt engineers were accompanied by DAI site engineer during the site evaluation. The findings of this site observation are documented in this report, including photos provided in the Figures section on pages 4-9.

### 3.0 SITE VISIT DETAILS: USAID RESPONSIBILITY

Regarding the USAID funded portion of works, the following was observed:

1. Site preparation including cutting, filling, leveling and compaction, total area of 5461 m<sup>2</sup> is incomplete. Site preparation: Tt engineers inspected site grading work. According to specification, the filling soil should be compacted layer by layer each 20 centimeters where on the site, the backfilling soil were being placed in 30 centimeters to 50 centimeters thick layers in waiting hall and bus station areas with no compaction and there were no compaction equipment around on the site (See Figure 4)
  - a. **Remaining Work:** The contractor is required to prepare and place base course material on bus terminal general area according to the project proposal and plans.
2. Construction of the boundary wall, total length of 291 meters, is incomplete. (See Figures 1 and 2) The construction of the RCC foundation of the boundary wall is complete, however the installation of steel fence installation on top of the boundary wall is underway (See Figure 3 and 5) and installation of the main gates has not been started (See Figure 10).
  - a. **Remaining Work:** The contractor is required to complete the installation of the steel fence on top of the boundary wall, pointing of the masonry wall, construct the RCC ring on top of the boundary wall and installation of the main gates.
3. Construction of Bus Station is incomplete. The construction of Bus Station in total area of 317.82 m<sup>2</sup> consists of excavation for foundation, placement of Plain Cement Concrete (PCC), installation of steel posts, installation of steel net and roof framing and finishing. The excavation and construction of RCC foundation and the installation of the steel column are complete according to the project plan. However one column was 6 centimeters out of alignment. (See Figure 6) and some of the columns' footings are chipped for leveling, (See Figure 8). the columns were not on the same level. (see Figure 6 and 7)
  - a. **Remaining Work:** The contractor is required to complete the Bus Station roof work according to the project proposal and drawings including the above mentioned deficiency and to install the steel net. Also, the construction of 123.57 m<sup>2</sup> Waiting Hall for Travelers to be completed.
4. Construction of Waiting Hall is incomplete. (See Figure 9). The construction of the RCC foundation is complete however the installation of the steel columns is underway (See Figure 4).
  - a. **Remaining Work:** The contractor is required to complete the Waiting Hall Roof work, installation of the metal benches and construction of the ceiling according to the project proposal and plans.
5. Construction of the sidewalks has not yet begun. The total area is 64.88 square meters,
  - a. **Remaining Work:** Contractor is required to construct the sidewalks according to the project proposal and plan.
6. Construction of RCC drainage is incomplete. The entire length of the drainage is 44.73 meters. The forming and rebar placement were ongoing.
  - a. **Remaining Work:** Contractor is required to construct the RCC drainage according to the project proposal and plan.

Based on the above summary, Tt has determined USAID's portion of the construction work for the Bus Terminal is well underway, but incomplete. The contractor's remaining work consists of the installation of the steel fence on top of the boundary wall, pointing work, construction of the RCC ring on top of the boundary wall, installation of the main gates, bus station roof work, installation of the steel net, construction of RCC drainage, construction of the sidewalks, construction of the Waiting Hall roof and installation of the metal benches. Tt observed the contractor's equipment and machinery (See Figure 11).

### 4.0 SITE VISIT DETAILS: ANDKHOY MUNICIPALITY RESPONSIBILITY

1. Construction of four (4) cabins latrine, two (2) cabins for women and two (2) for men in 36.9m<sup>2</sup> of land. Construction work on these portions has not yet begun.
  - a. **Remaining Work:** The Andkhoy Municipality is to construct the four (4) cabins latrine with the all related activities included in the Proposal.

2. Construction of the water well has not started yet. It is to be a 12 inch well up to a depth of 50 meters.
  - a. **Remaining Work:** The Andkhoy Municipality is to construct the water well according to the Proposal.
3. Construction of shops and a restaurant has not started yet. Seven (7) shops on 105m<sup>2</sup> land and a restaurant on 60m<sup>2</sup> of land is to be completed.
  - a. **Remaining Work:** The Andkhoy Municipality is to construct the shops and restaurant according to the all related activities included in the Proposal.

Based on the above summary, Tt has determined Andkhoy Municipality's portion of the construction work for the Andkhoy Bus Terminal which has not yet begun. The Andkhoy Municipality's remaining work consists of construction of four (4) cabins latrine - two (2) cabins for women and two (2) for men, construction of water well up to depth of 50m and construction of seven (7) shops and a restaurant.



**FIGURES**

**Figure 1.** Stone Masonry of Boundary Wall



**Figure 2.** Pointing of Boundary Wall

**FIGURES (CONTINUED)**

**Figure 3.** Installation of fence on top of the Boundary Wall



**Figure 4.** Filling with fine grained soil (Clay)



**FIGURES (CONTINUED)**

**Figure 5.** Installation of fence on top of the Boundary Wall



**Figure 6.** The first column is 6cm out of columns alignment



**FIGURES (CONTINUED)**

**Figure 7.** The Footing for column is not level



**Figure 8.** Footing concrete is chipped off for leveling purpose

**FIGURES (CONTINUED)**

**Figure 9.** Columns and roofing frame for Waiting Hall



**Figure 10.** Columns for Entrance Gate



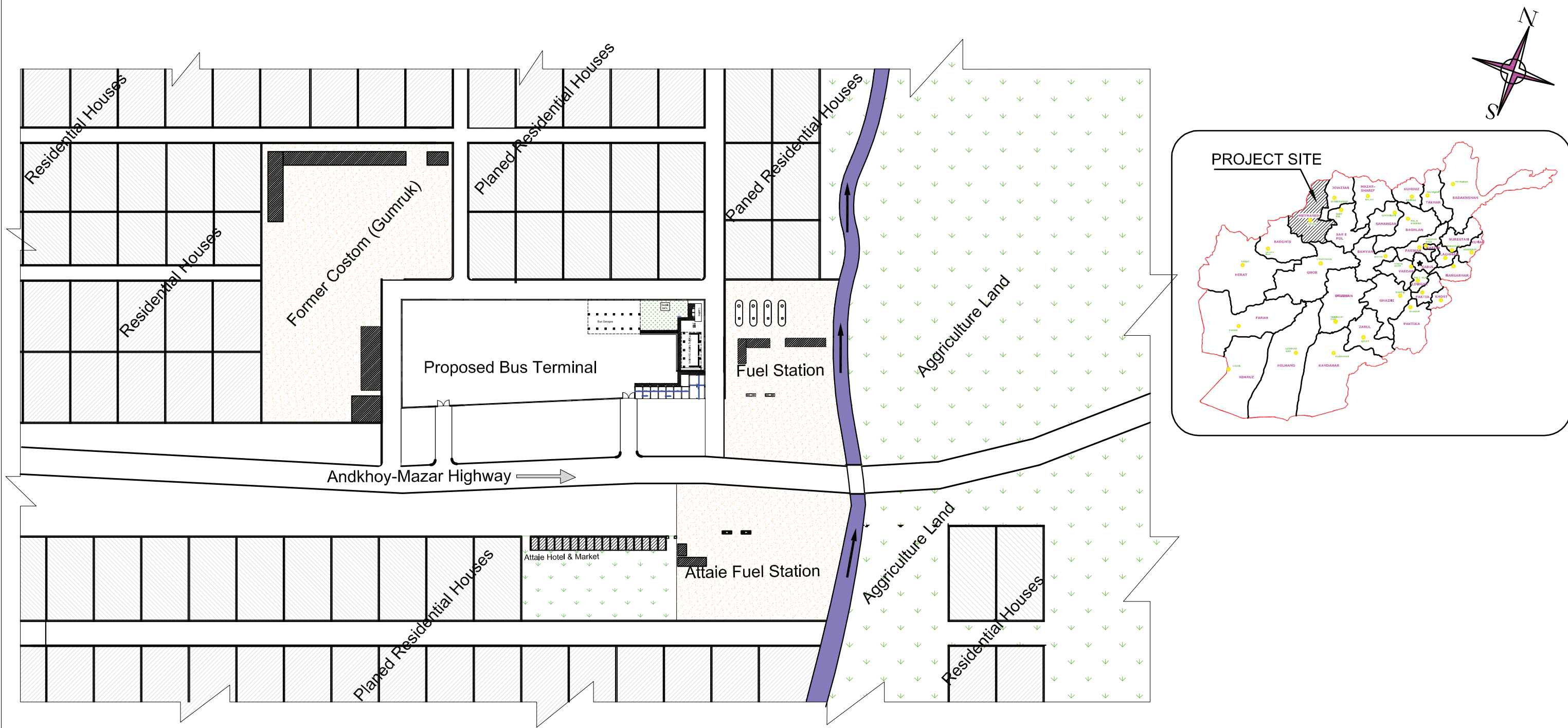
**FIGURES (CONTINUED)**

**Figure 11.** Mortar for Stone Masonry and Pointing

## APPENDIX A – ANDKHOY BUS TERMINIAL CONSTRUCTION DRAWINGS

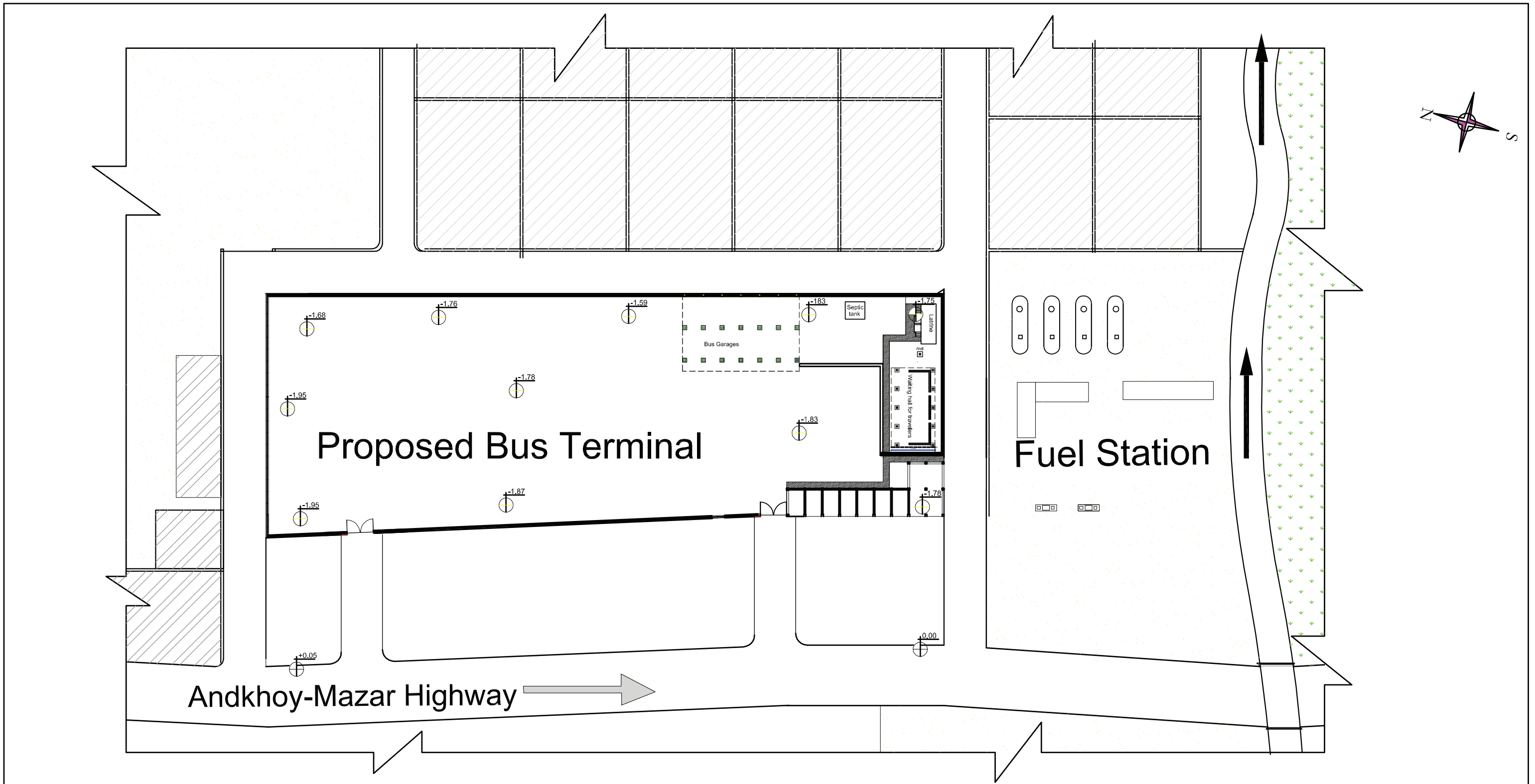
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Site general plan

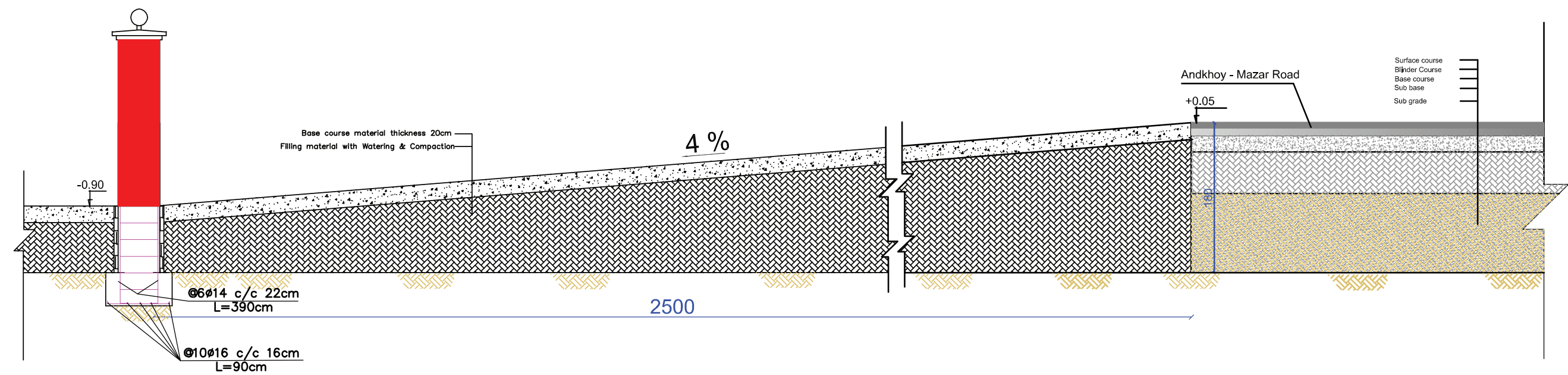
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Bus Terminal Site Plan	Estimated by:			Municipal Engineering Advisor RAMP-UP-N		Construction of Bus Terminal
	Conceptual Approved by:			Mayor of Andkhoy		
Drawing Number    1/17	Technical Checked by:			Engineering Directore RAMP-UP-N		Date:    June 2013
	Approved by:			Project Manager RAMP-UP-N		



Drawing Title: Existed Elevation points of Bus terminal area  Drawing Number: 2/17		Name	Position/Organization	Project Name: Construction Of Bus Terminal  Date: June 2013
	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	
	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
	Technical Checked by:		Engineering Directore RAMP-UP N	
	Approved by :		Project Manager RAMP-UP N	

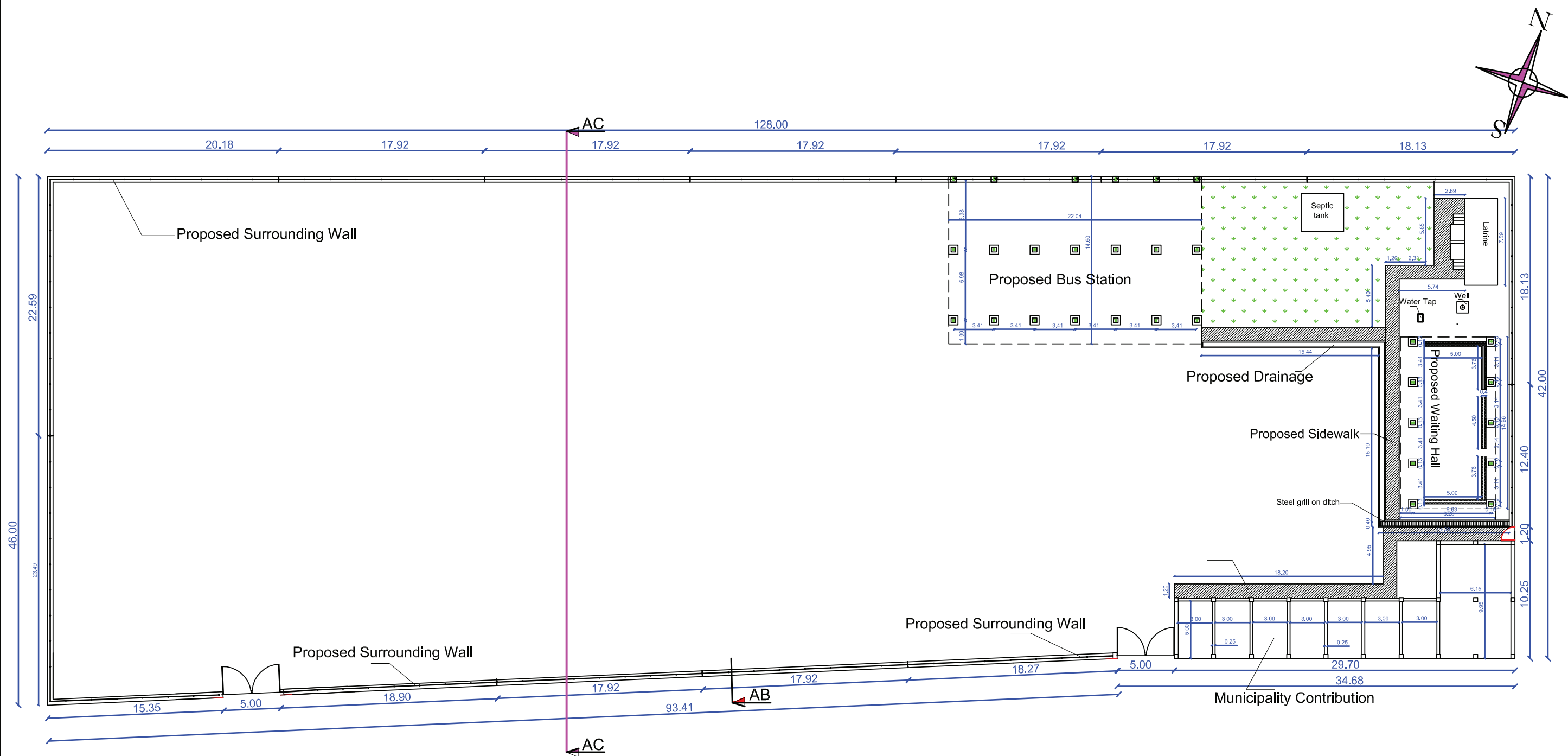


Cross section AB



Note:  
All dimension is in meter(m)

Drawing Tittle:		Name	Position/Organization	Project Name:
Cross Section AB	Surveyed by:		Municipal Engineering Advisor RAMP UP N	Construction of bus terminal
	Estimated by:		Municipal Engineering Advisor RAMP UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
Drawing Number:	Technical Checked by:		Engineering Director RAMP-UP N	Date: June 2013
4/16	Approved by:		Project Manager RAMP-UP N	



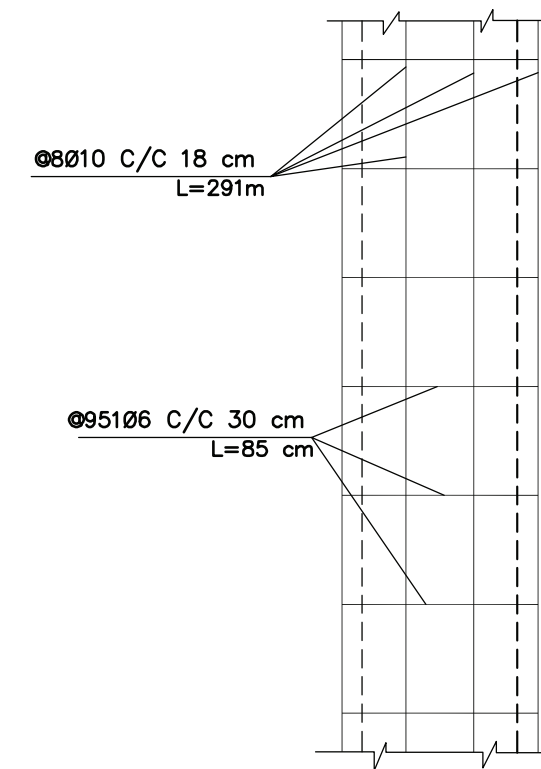
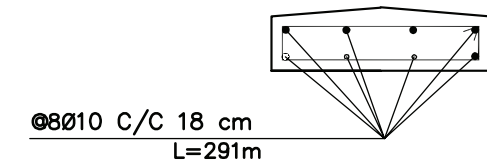
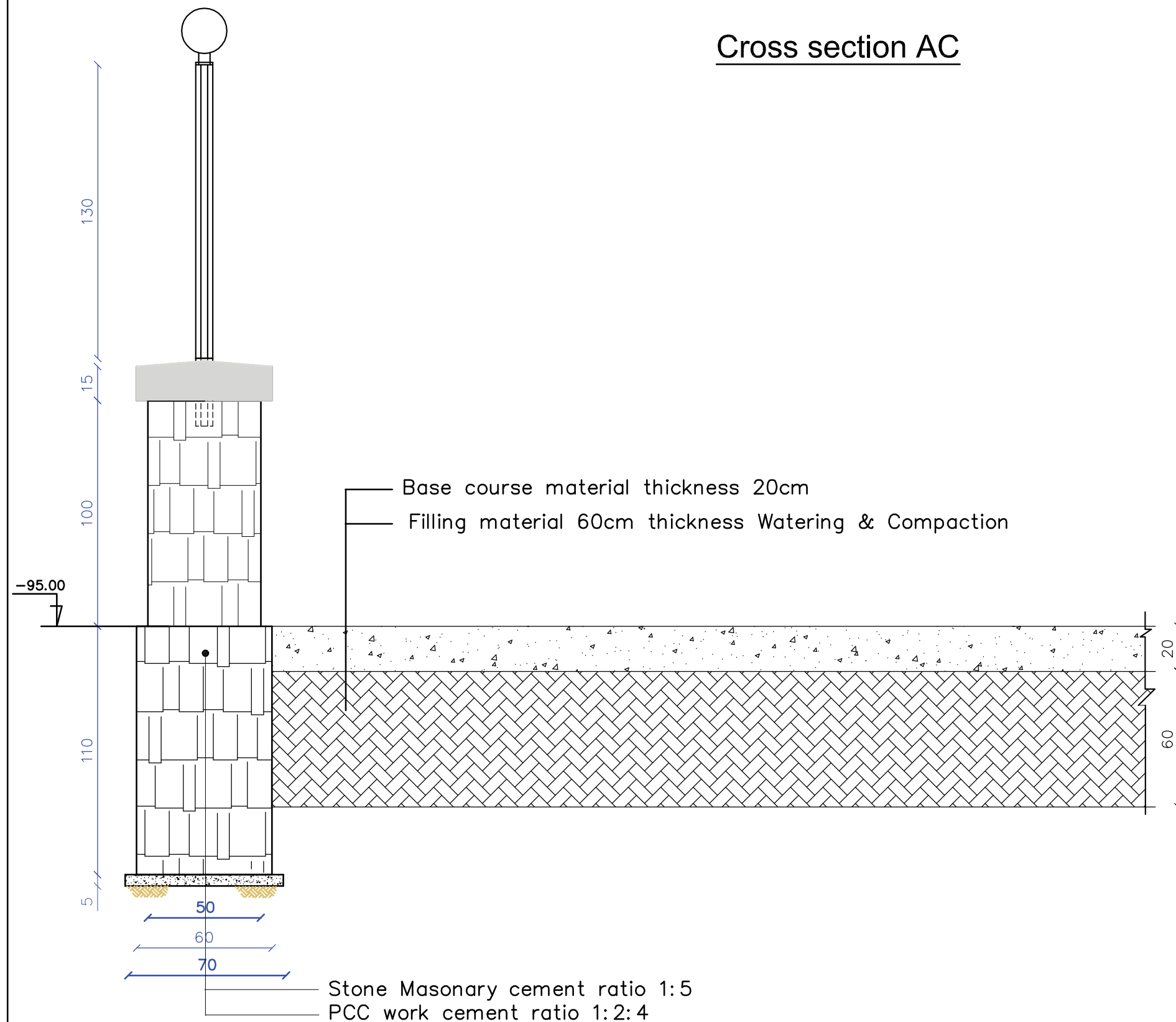
# Bus Terminal General Plan

Note:  
All dimension is in meter(m)

Drawing Title: Bus Terminal General Plan		Name	Position/Organization	Project Name: Construction of bus terminal
	Surveyed by:		Municipal Engineering Advisor RAMP UP N	
	Estimated by:		Municipal Engineering Advisor RAMP UP N	
Drawing Number: 5/17	Conceptual Approved by:		Mayor of Andkhoy	Date: June 2013
	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	



### Cross section AC

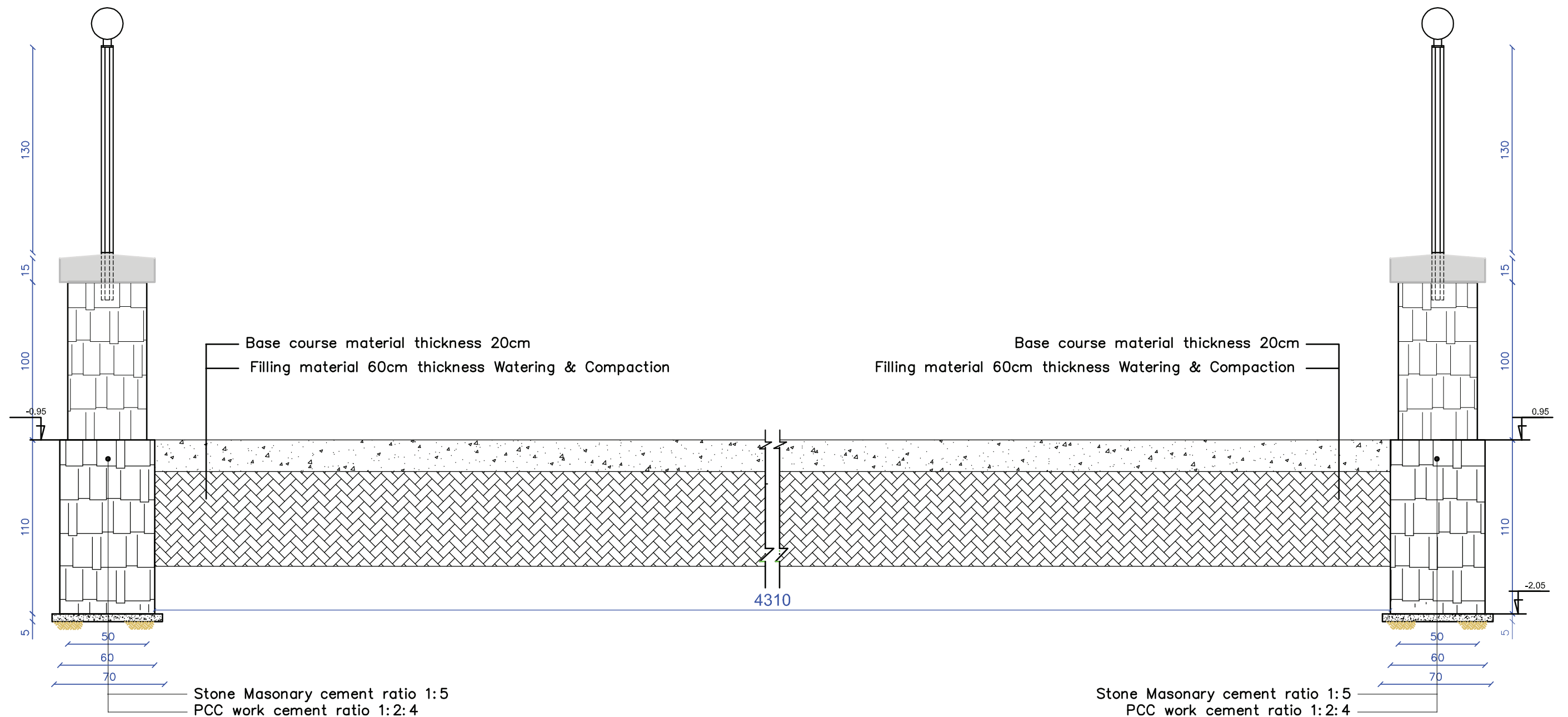


### Steel Bending of Ring

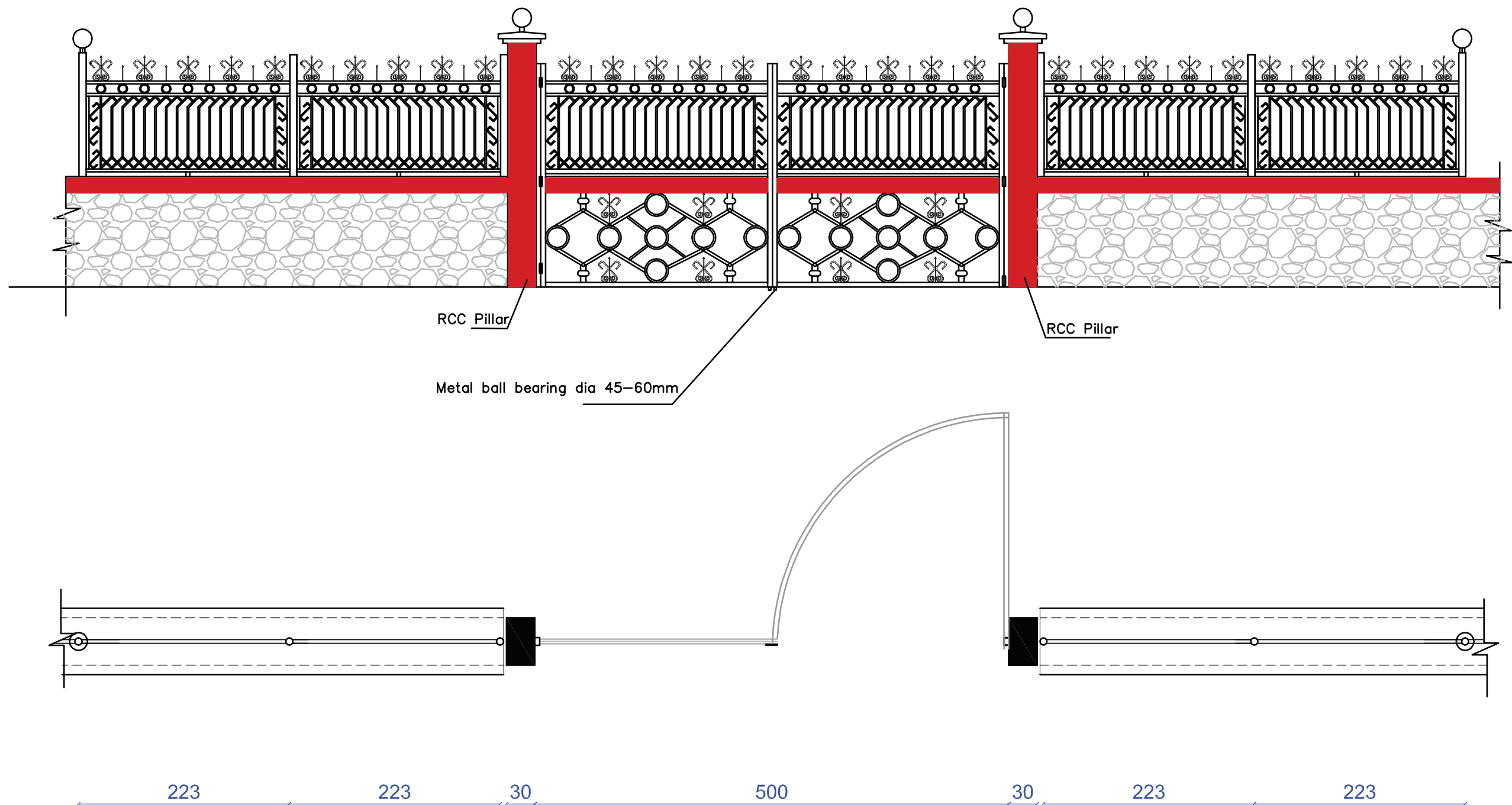
Note:  
All dimension is in centimeter(cm)

Drawing Title:		Name	Position/Organization	Project Name:	
Cross section AC	Surveyed by:		Municipal Engineering Advisor RAMP UP N	Construction of bus terminal	
	Estimated by:		Municipal Engineering Advisor RAMP UP N		
Drawing Number: 6/17	Conceptual Approved by:		Mayor of Andkhoy		Date: June 2013
	Technical Checked by:		Engineering Director RAMP-UP N		
	Approved by:		Project Manager RAMP-UP N		

# Cross section AD



Drawing Title: Details AD	Surveyed by:	Name	Position/Organization	Project Name: Construction of bus terminal
	Estimated by:		Municipal Engineering Advisor RAMP UP N	
Drawing Number: 7/16	Conceptual Approved by:		Municipal Engineering Advisor RAMP UP N	Date: May 2013
	Technical Checked by:		Mayor of Andkhoy	
	Approved by:		Engineering Director RAMP-UP N	
			Project Manager RAMP-UP N	



Surrounding wall detail and view

Note:  
All dimension is in centimeter(cm)

Drawing title:		Name	Position/Organization	Project Name:
Surrounding wall with detail	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	Construction of bus terminal
	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
Drawing Number: 8/17	Conceptual Approved by:		Mayor of Andkhoy	Date: June 2013
	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	

lamp with round  
cover complete  
40 Watt

## Fence on surroundingwall

GIP dia 7.5cm  
L=160cm

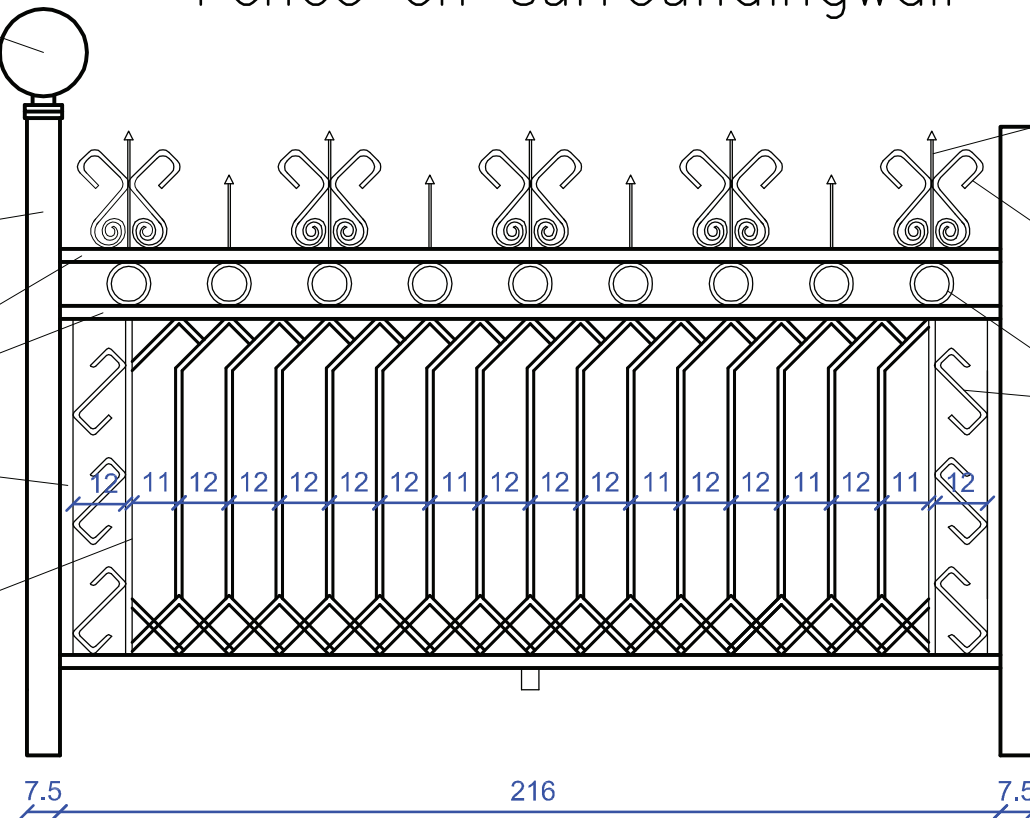
Profile 3X3cm

Profile 1.5X1.5cm

steel wire 12mm

steel wire 10mm

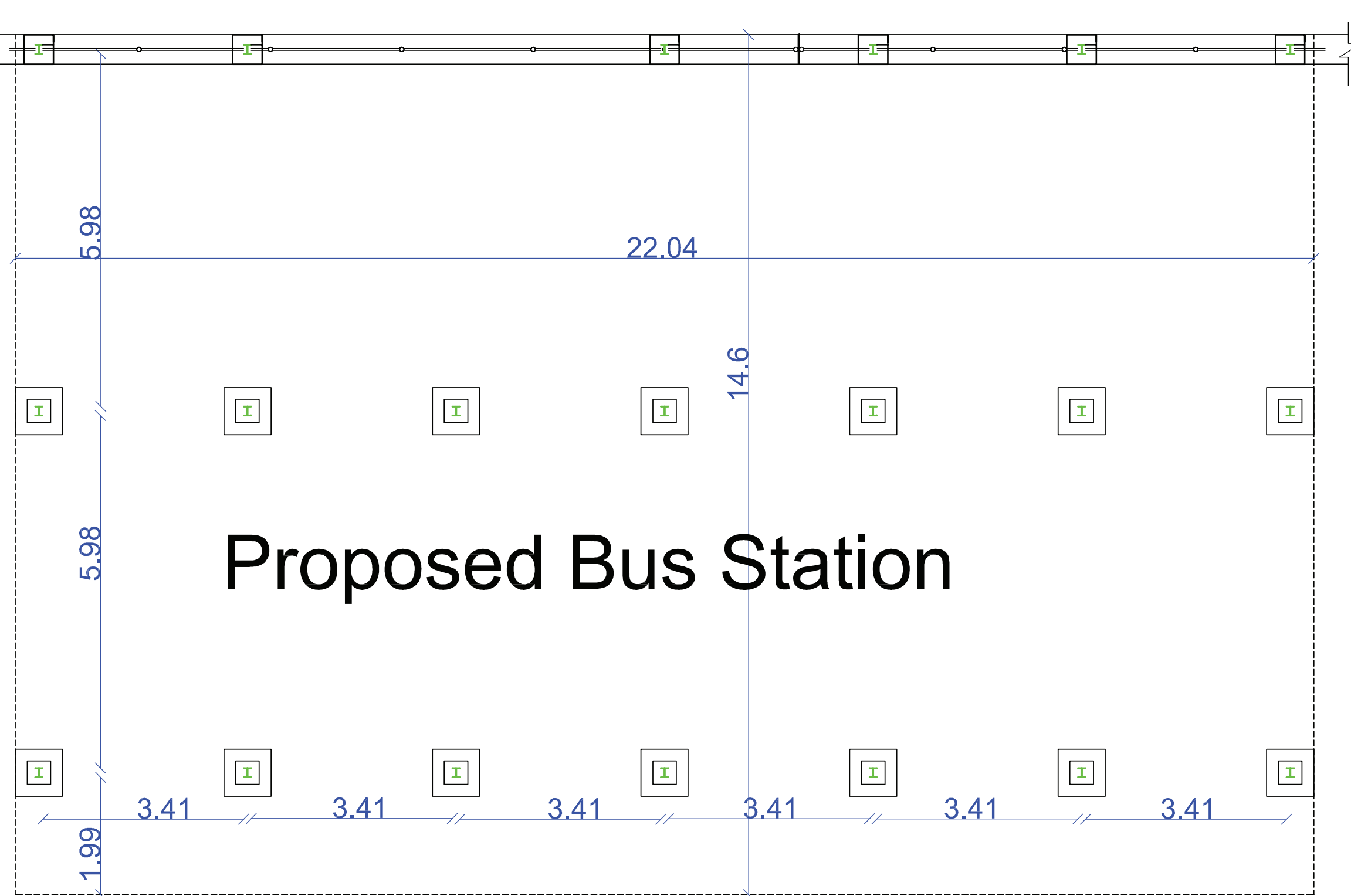
steel wire 10mm



## Fence on Surrounding Wall

Note:  
All dimension is in centimeter(cm)

Drawing Title:		Name	Position/Organization	Project Name:
Fence Details	Surveyed by:		Municipal Engineering Advisor RAMP UP N	Construction of bus terminal
	Estimated by:		Municipal Engineering Advisor RAMP UP N	
Drawing Number:	Conceptual Approved by:		Mayor of Andkhoy	Date: June 2013
9/17	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	

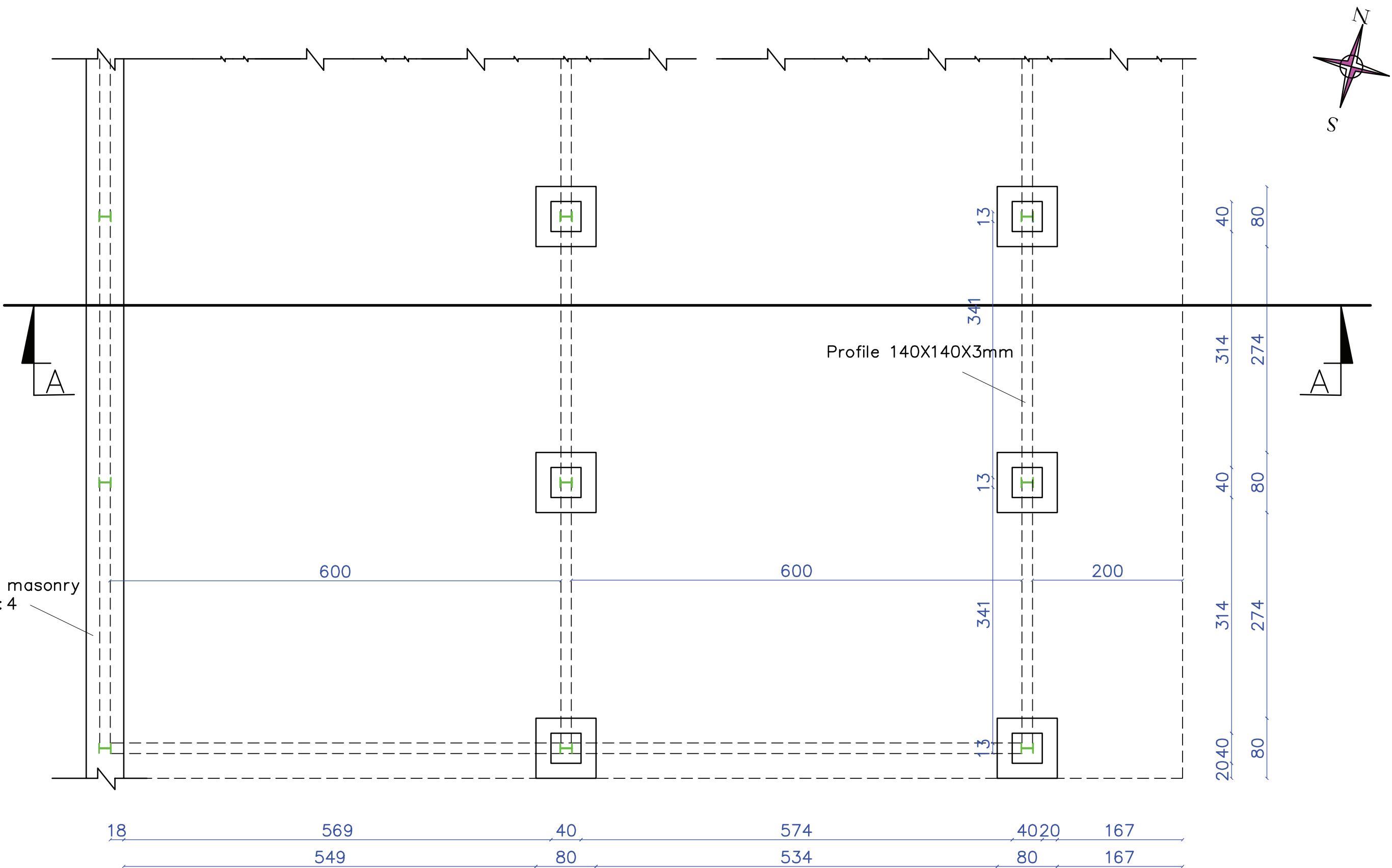


# Proposed Bus Station

Note:  
All dimension is in meter(m)

Drawing Title: Bus station plan  Drawing Number: 10/20		Name	Position/Organization	Project Name: Construction Of Bus Terminal  Date: May 2013
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	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
	Technical Checked by:		Engineering Directore RAMP-UP N	
	Approved by :		Project Manager RAMP-UP N	

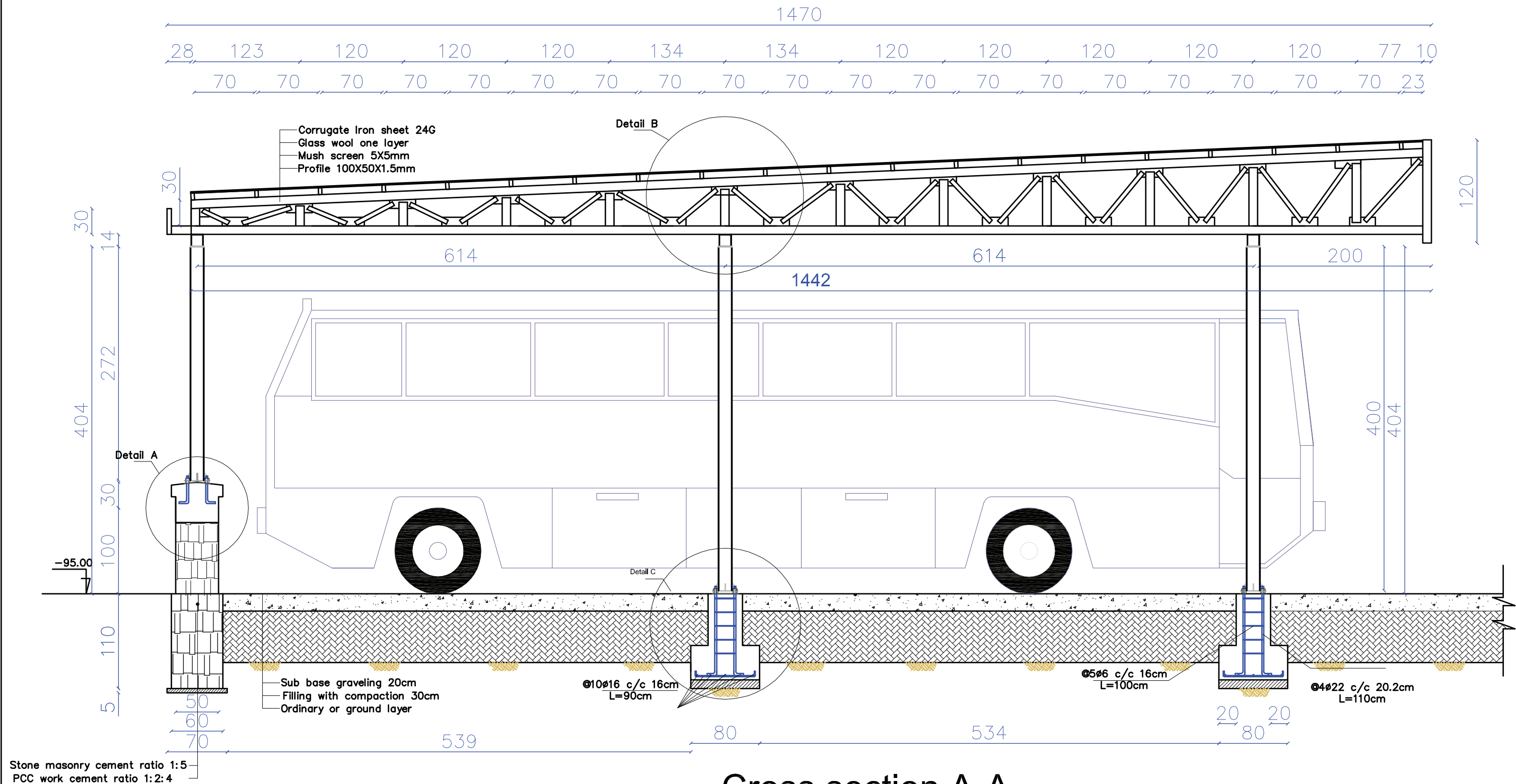




Part of bus station Plan

Note:  
All dimension is in centimeter(cm)

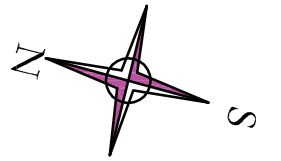
Drawing Title: A Part of bus station plan		Name	Position/Organization	Project Name: Construction of bus terminal
	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	
	Estimated by:		Municipal Engineering advisor RAMP-UP N	
Drawing Number: 11/17	Conceptual Approved by:		Mayor of Andkhoy	Date: June 2013
	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	



**Cross section A-A**

Note:  
All dimension is in meter(m)

Drawing Title: Cross Section A-A	Name		Position/Organization	Project Name:  Construction of bus terminal  Date: <b>June 2013</b>
	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	
Drawing Number: 12/17	Estimated by:		Municipal Engineering advisor RAMP-UP N	
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	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	



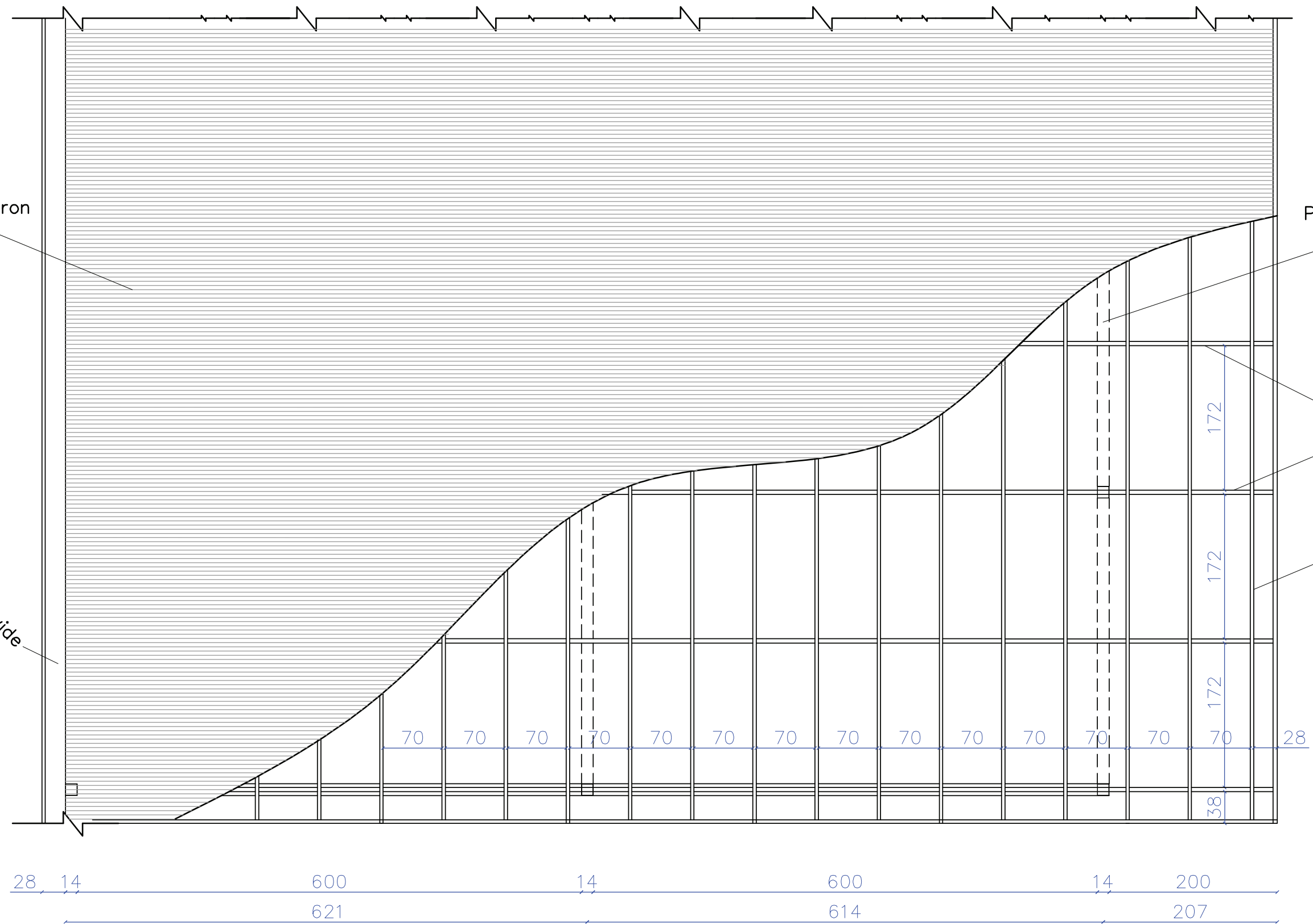
Corrugate Iron sheet 24G

Profile 140X140X3mm

Profile frame

Profile 80X40X1.5mm

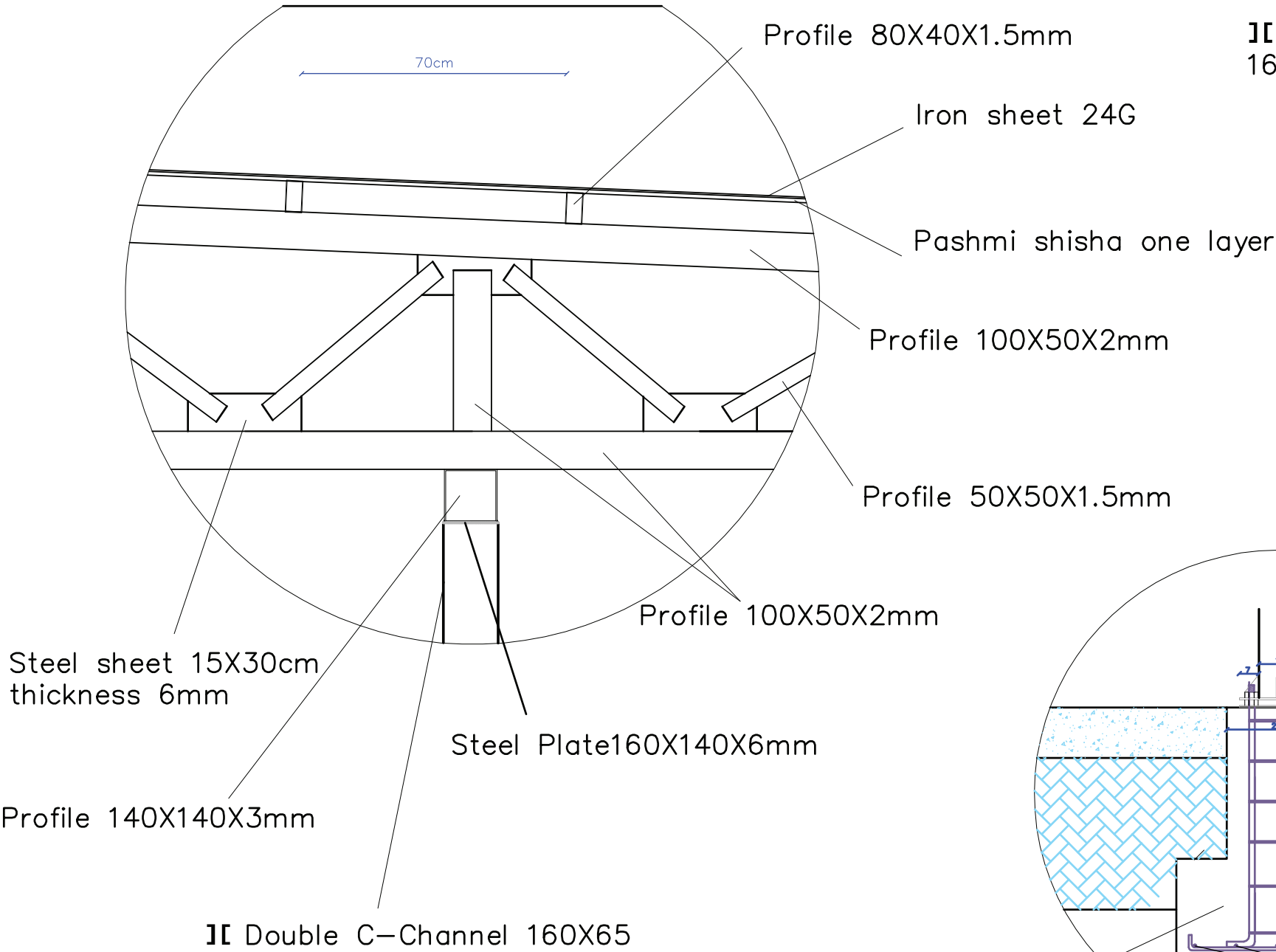
Gutter 25cm wide



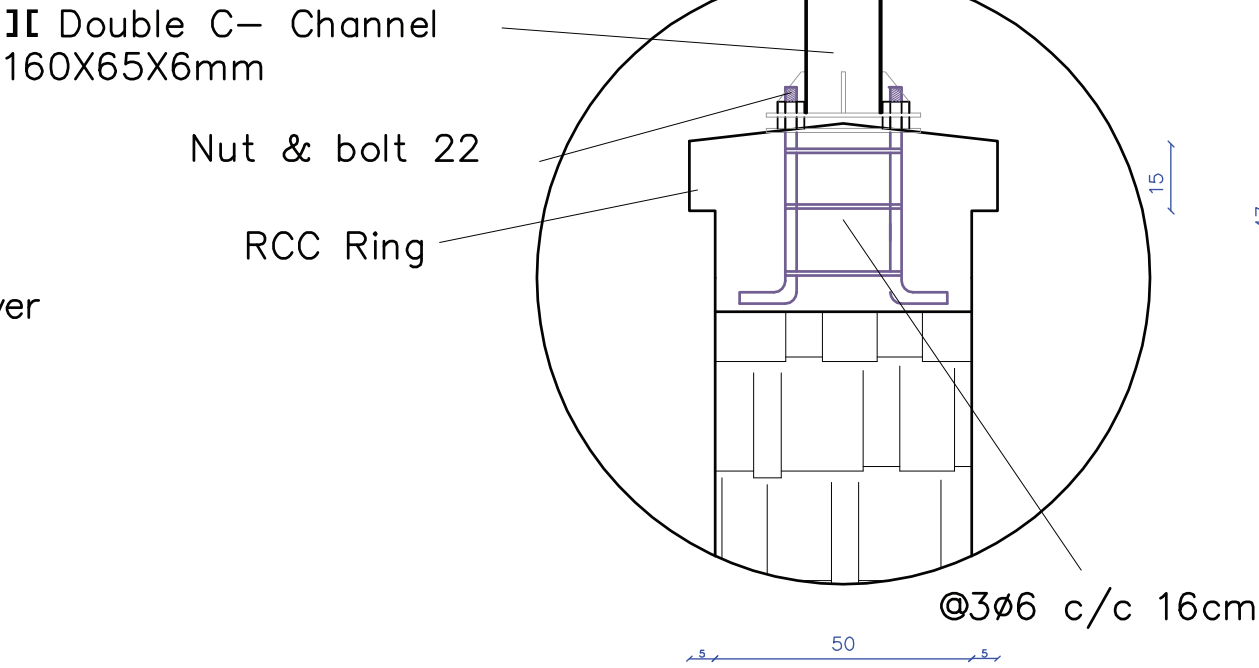
Note:  
All dimension is in meter(m)

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Roof Plan	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	Construction of bus terminal
	Estimated by:		Municipal Engineering Advisor RAMP-UP N	Date: June 2013
	Conceptual Approved by:		Mayor of Andkhoy	
Drawing Number:	13/17	Technical Checked by:	Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	

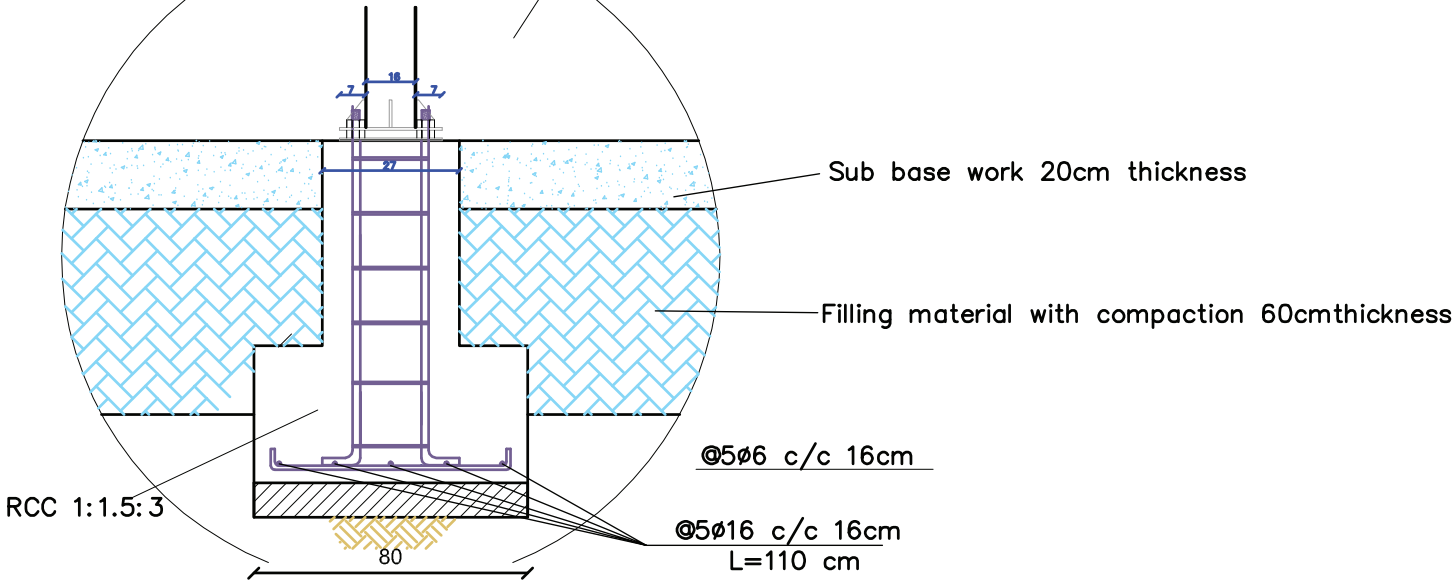
# Detail B



# Detail A

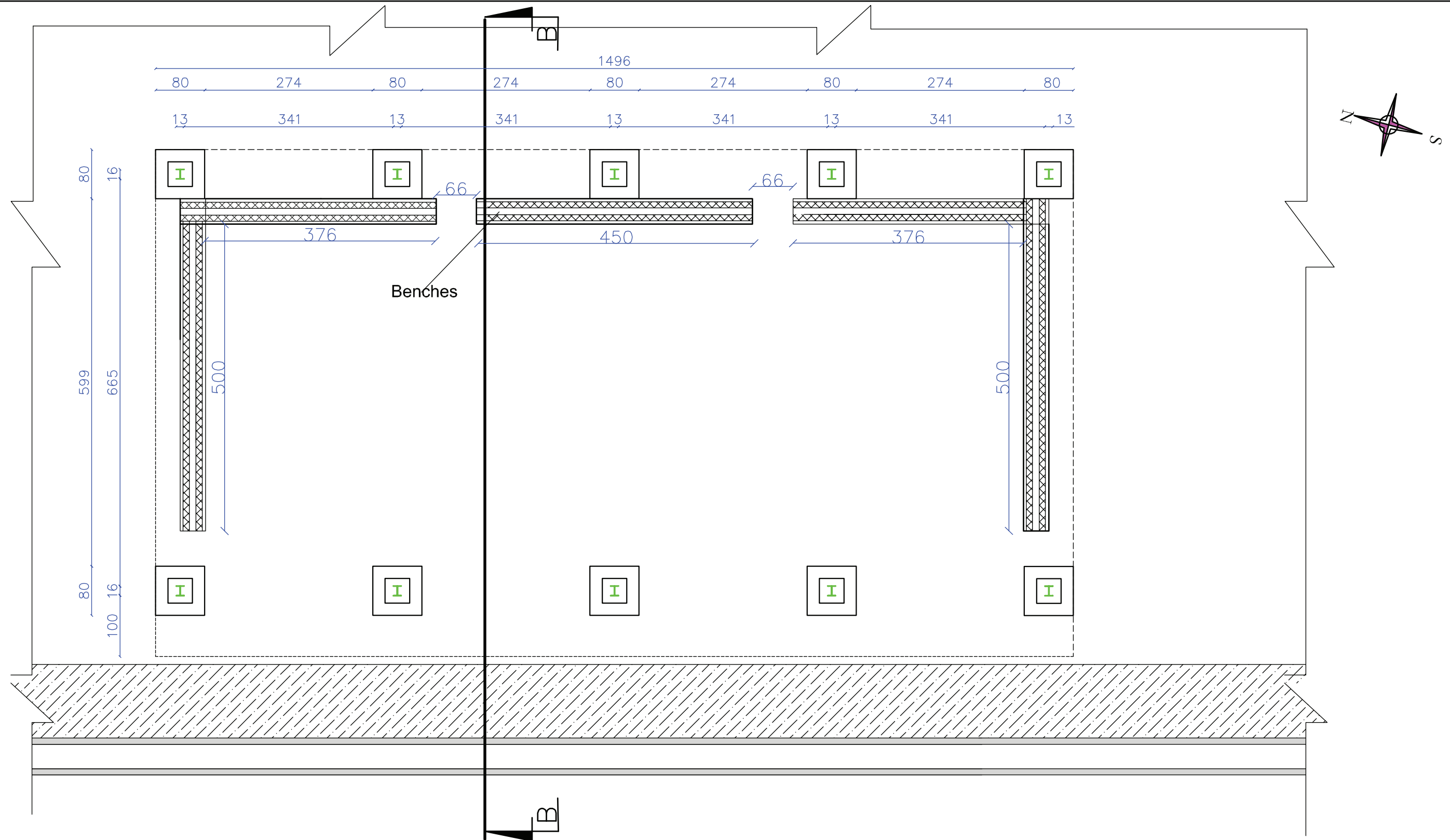


# Detail C



Note:  
All dimension is in meter(m)

Drawing Title: Details A, B & C	Name		Position/Organization	Project Name: Construction of bus terminal  Date: June 2013
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Drawing Number: 14/17	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
	Technical Checked by:		Engineering Director RAMP-UP N	
	Approved by:		Project Manager RAMP-UP N	



Waiting hall Plan

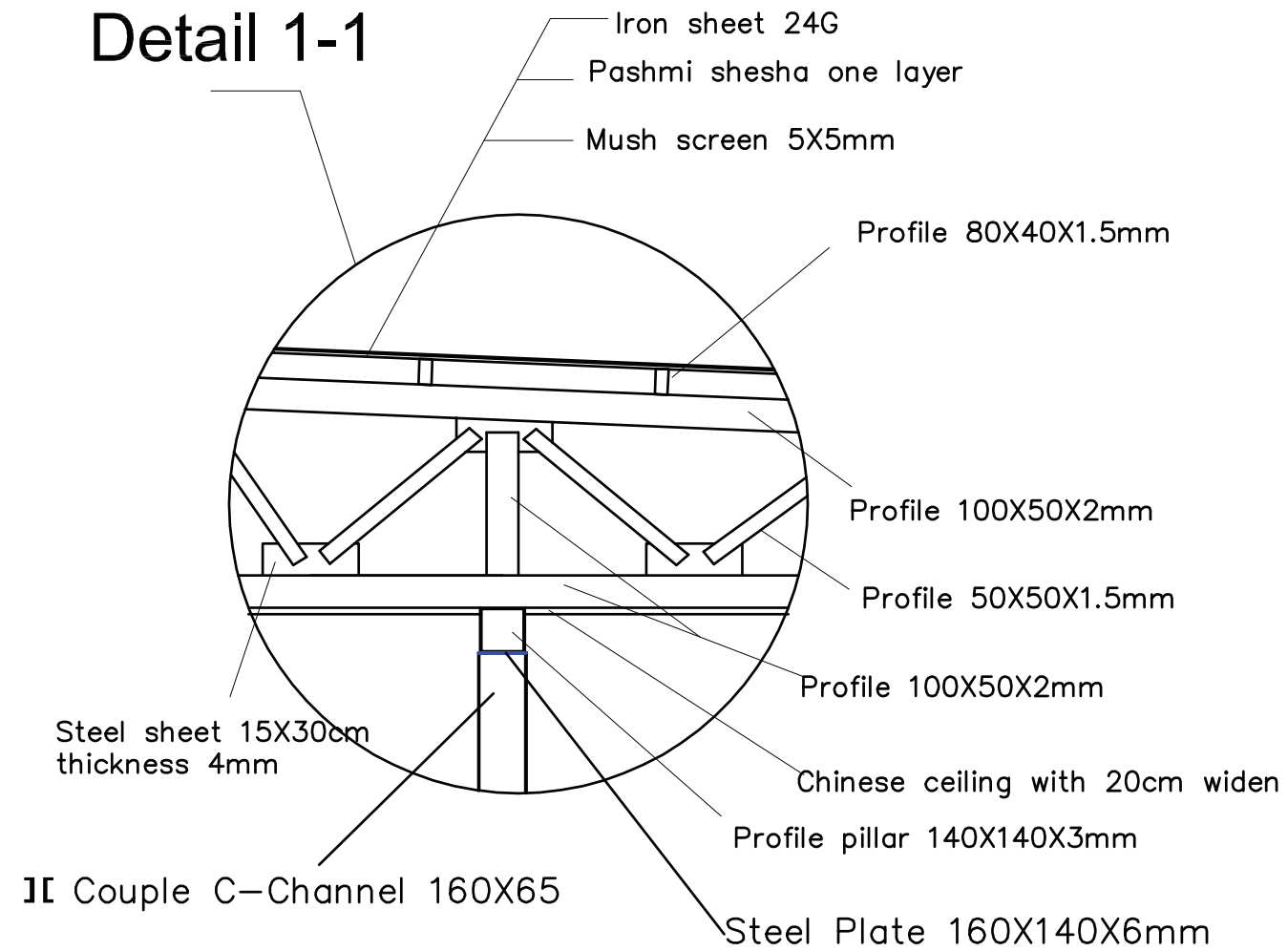
Note:  
All dimension is in centimeter(cm)

Drawing Title: Waiting Hall Plan  Drawing Number: 15/17		Name	Position/Organization	Project Name: Construction Of Bus Terminal  Date: June 2013
	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	
	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
	Technical Checked by:		Engineering Directore RAMP-UP N	
	Approved by :		Project Manager RAMP-UP N	

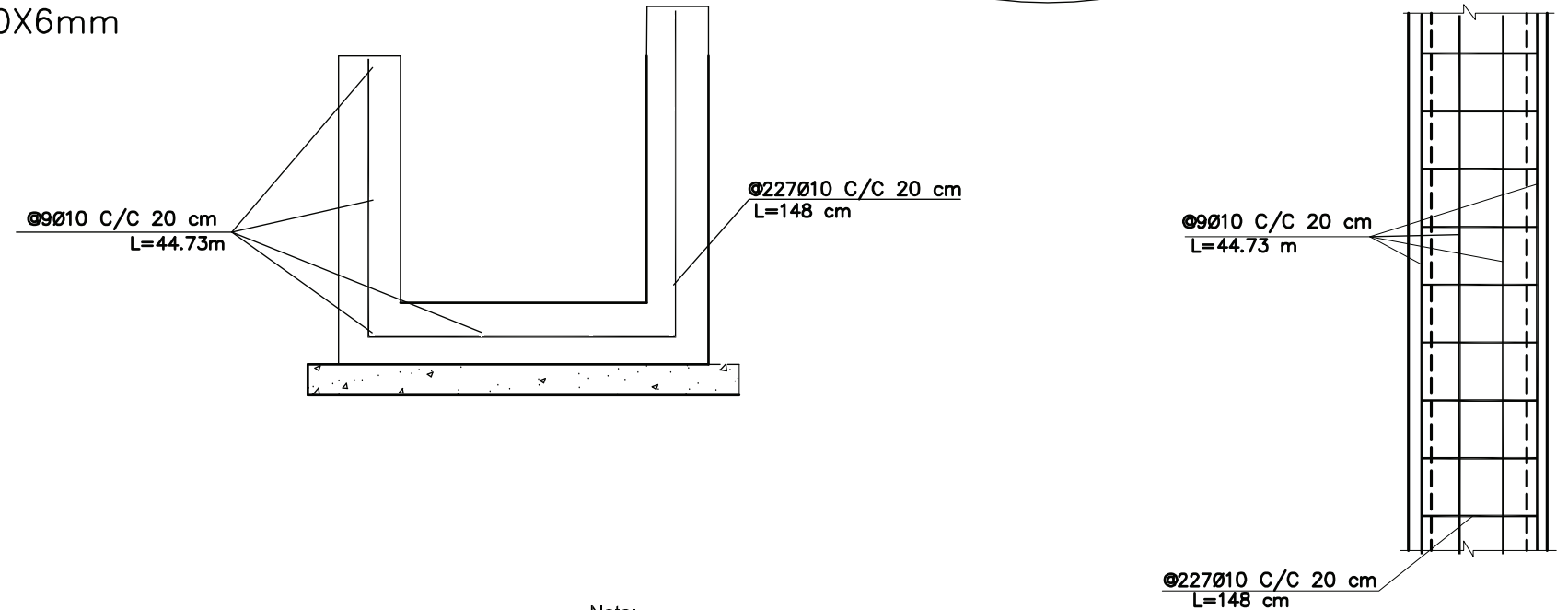
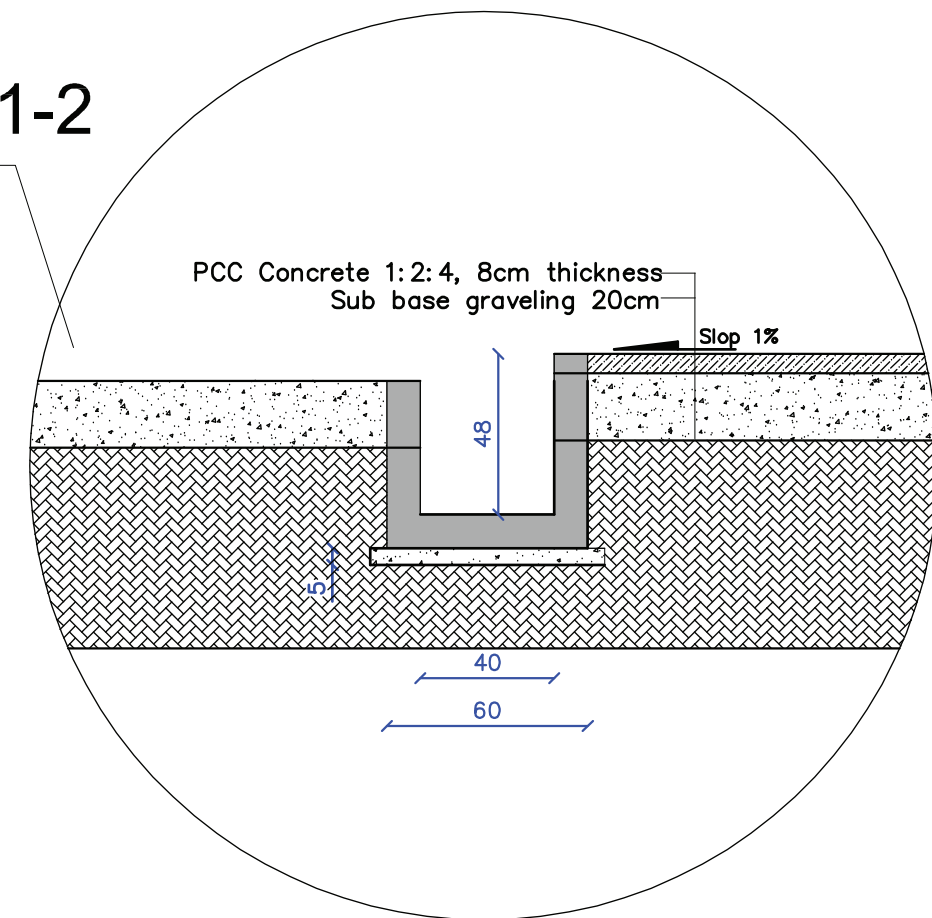




## Detail 1-1



## Detail 1-2



Note:  
All dimension is in centimeter(cm)

steel bending plan for drainage

Drawing Title: Details 1-1 & 1-2		Name	Position/Organization	Project Name: Construction of bus terminal  Date: June 2013
	Surveyed by:		Municipal Engineering Advisor RAMP-UP N	
	Estimated by:		Municipal Engineering Advisor RAMP-UP N	
	Conceptual Approved by:		Mayor of Andkhoy	
	Technical Checked by:		Engineering Director RAMP-UP N	
Drawing Number: 17/17	Approved by:		Project Manager RAMP-UP N	























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## APPENDIX B – ANDKHOY BUS TERMINIAL CONSTRUCTION BOQ

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## RAMP UP NORTH - Bus Terminal

### Bill of Quantity

Andkhoy Municipality

				Date:	13-May-13	Remarks
No	Item	Quantity	Unit	Unit cost	Total cost	
				Afs	Afs	
1.0	Sit preparation "grading, normal filling h=60cm, base course filling h=20cm, leveling, watering and compaction with 5461 m2".					
1.01	Grading and Filling bus terminal area with common soil with 60cm thickness including compaction layer by layer each 20 cm and transportation cost.	3600.40	m3			
1.02	Laying base course material on bus terminal general area with 20cm thickness and compaction (with 10T machine) and watering according technical specification (50 % well graded crashed aggregate, 30% sand and 20% suitable soil including transportation and all required activities)	1024.34	m3			
2.00	Construction of boundary wall 291m length, including excavation for foundation, Plain Cement Concrete "PCC" work 1:2:4, stone masonry work 1:4 upper and down the ground, pointing work 1:3, reinforcement cement concrete "RCC" 1:1.5:3 with shuttering, steel bar, curing at least for 14-18 days and cold climate 28 days and plastic painting, supply and installation of gates and fence 140m with best fully welded and clean painting.					
2.01	Excavation of foundation in earth type 3 with all requirement	61.11	m3			
2.02	Plain Cement Concrete "PCC" work under stone masonry wall with cement ratio 1:2:4	10.19	m3			
2.03	Stone masonry work with mortar 1:4 with all required activities including some backfilling base on the site.	285.18	m3			
2.04	Providing and installation of fence including two coat oil painting and light on every two pillar with cabling, cover sheet and original 40w light best quality see fence detail and drawings	291.00	m			
2.05	Pointing of stone masonry with mortar ratio - 1:3 with all required activities.	731.70	m2			
2.06	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 footings, columns, rings with shuttering and steel bar best quality of steel, cement, (375kg per m3) clean coarse sand and crushed gravel ≤32mm mixing the aggregate, placing and form works, curing at least for 14-18 days and cold climate 28 days including plastering and painting.	30.85	m3			
2.07	Gate with all required activities as per drawing and specification	27.40	m2			
3.0	Construction of 317.82 m2 Bus Station include: roof frame with cover GI sheet 0.5, base course floor, posts 14 x14 cm T= 3mm, excavation, steel net, PCC under the footing of RCC based on the drawings.					
3.01	Excavation foundation of footings in soil type 3 with all requirement	8.064	m3			
3.02	Plain Cement Concrete "PCC" work under footings foundation cement ratio 1:2:4	0.896	m3			

## RAMP UP NORTH - Bus Terminal

### Bill of Quantity

Andkhoy Municipality

No	Item	Quantity	Unit	Date:	13-May-13	Remarks
				Unit cost	Total cost	
				Afs	Afs	
3.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 for footings include: shuttering and best quality steel bar, cement, 375kg per m3 putting nut and bolt from bar 22mm in footing based on the drawings.	5.15	m3			
3.04	Supply and installation of steel net for behind and half side of bus garage with wire 3mm and mesh size 5X5cm.	67.20	m2			
3.05	Roofing work including ( roofing frame profile 100X50X2mm and 50X50X1.5mm and 80X40X1.5mm, cover G.I sheet 0.5mm with screw and gasket rubber washers each 50cm C/C and 3 coat anti rust & oil painting and gutters, steel sheets in two side of the tube beams and tube columns and the bottom of the columns with specific nut and bolt steel bar 22mm, posts should double C-channel (16 x 6.5 cm) based on drawing and specification.	317.82	m2			
4.0	<b>Construction of 123.57 m2 Waiting Hall for Travelers include:(roofing and truss frame profiles cover G.I sheet 0.5mm with screw and gasket rubber washers in each 50cm C/C. 3 coats oil paints and gutters. Posts profile 14 x 14 cm and thickness 3mm. Excavation for foundation, PCC and RCC footings putting 4 nut and bolt in each footing from bar 22mm. Supplying and installation of metal benches and Chinese ceiling based on the drawings).</b>					
4.01	Excavation for footings foundation in soil type 3 with all requirement	5.760	m3			
4.02	Plain Cement Concrete "PCC" work for floor and under the foundation of footing cement ratio 1:2:4	10.640	m3			
4.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 footings with shuttering and steel bar best quality of steel, cement, 375kg per m3 putting nut and bolt 22mm in footing based on the drawings.	3.52	m3			
4.04	Roof work from different profiles as per design, double C-channel (16x 6.5 cm), cover G.I sheet 0.5mm with screw and gasket rubber washers each 50 cm C/C. Entire frame should be best quality 1.5mm and 1 coat anti rust and 3 coat oil painting. Supply and installation of gutters, supporting plate, nut and bolt from steel bar 22 mm, and Chinese ceiling based on the drawings with all required activities.	123.57	m2			
4.05	Supplying and installation plotline high pressure pipe with 20cm dia for water drainage for waiting hall. Should be completed with all activities like excavation, pipe installation, back filing and ventilation	17.00	m			
4.06	Providing and installation of 22.2 meter wooden metal bench, 40cm wide and 40cm high from ground. Should have 50% wooden plank (section size 20x4 cm) including PCC for footing, and painting with all required activities see detail in drawings.	22.86	m			



## RAMP UP NORTH - Bus Terminal

### Bill of Quantity

Andkhoy Municipality

				Date:	13-May-13	Remarks
No	Item	Quantity	Unit	Unit cost	Total cost	
				Afs	Afs	
5.0	Construction of Sidewalks 64.88 square meter activity include: lining, filling base course material, PCC M 1:2:4, normal slope 1% and supply and installation of grills on top of drainage base on drawing and specification.					
5.01	Base course material under side walk concrete including lining, watering and compaction	12.93	m3			
5.02	Plain Cement Concrete "PCC" 1:2:4 with all activities shutting, watering and brushing	6.20	m3			
5.03	Supply and installation of grills based on the drawing.	12.10	m			
6.0	Construction of 44.73 m RCC drainage including " excavation for foundation, laying base course materials, steel bar working, shuttering work with best plank, Reinforcement Cement Concrete "RCC" 1:1.5:3 for walls and floor curing at least for 14-18 days and cold climate 28 days					
6.01	Excavation for foundation in earth type 3 with all requirement	19.680	m3			
6.02	Base course material under drainage concrete including watering and compaction	1.790	m3			
6.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 for walls and floors with shuttering and steel bar best quality of steel, cement, 375kg per m3 curing at least for 14-18 days and cold climate 28 days based on the drawings.	6.62	m3			
Total Amount in AFA						

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## APPENDIX C – ANDKHOY BUS TERMINAL CONTRUCTION PROPOSAL

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**Regional Afghan Municipalities Program for Urban Populations**

**(RAMP UP-North)**

**Regional Command North**

**Project Proposal**

**Province:** Faryab

**Municipality:** Andkhoy

**Project Number:** RUN-P-ADK-001

**Project Name:** Construction of a Bus Terminal

**Project Duration:** 3 Months

**Estimated Project Cost:** [REDACTED]

**Date:** May 15, 2013

**MGRS Coordinates of Project Area:** 41SPA9127990991

**GPS Coordinates:**

**Latitude:** N: 36° 56' 44.1"

**Longitude:** E: 65° 08' 53, 2"



## **I. Problem statement:**

Andkhoy Municipality with population of around 30,300 residents (15,200 men and 15,100 women) is one of the key cities in Afghanistan's Northern region, with people traveling from and to Sheberghan, Mazar, Kabul and other provinces and districts. The city does not have a bus terminal and travelers are forced to stand in open areas during the winter and summer for hours without access to any facilities, such as public latrines, seating areas, or parking lots, which causes traffic jams and road accidents.

## **II. Solution statement**

On February 12, 2013, a joint meeting of Andkhoy citizens and the municipality (30 participants, all men, including 21 citizens and 9 municipal officials, including the Mayor) was held to identify Round 1 projects. The participants prioritized and selected the construction of a bus terminal as the first priority of the Andkhoy Municipality.

The construction of this bus terminal and a parking lot will address the problem of traffic jams in the municipality, and the public latrine that will be constructed as part of the project will also improve public health and cleanliness.

The Mayor anticipates establishing a public-private partnership agreement for the operation of the bus terminal to ensure its sustainability after the improvements made by the project.

## **III. Beneficiaries:**

The direct beneficiaries are the entire population of Andkhoy Municipality, estimated at 30,300 residents (15,200 men and 15,100 women), including the estimated 500 passengers from Andkhoy and neighboring provinces that will be using the bus terminal on a daily basis. Indirect beneficiaries would be all those people from other districts and provinces who would use the bus terminal.

## **IV. Scope of Work:**

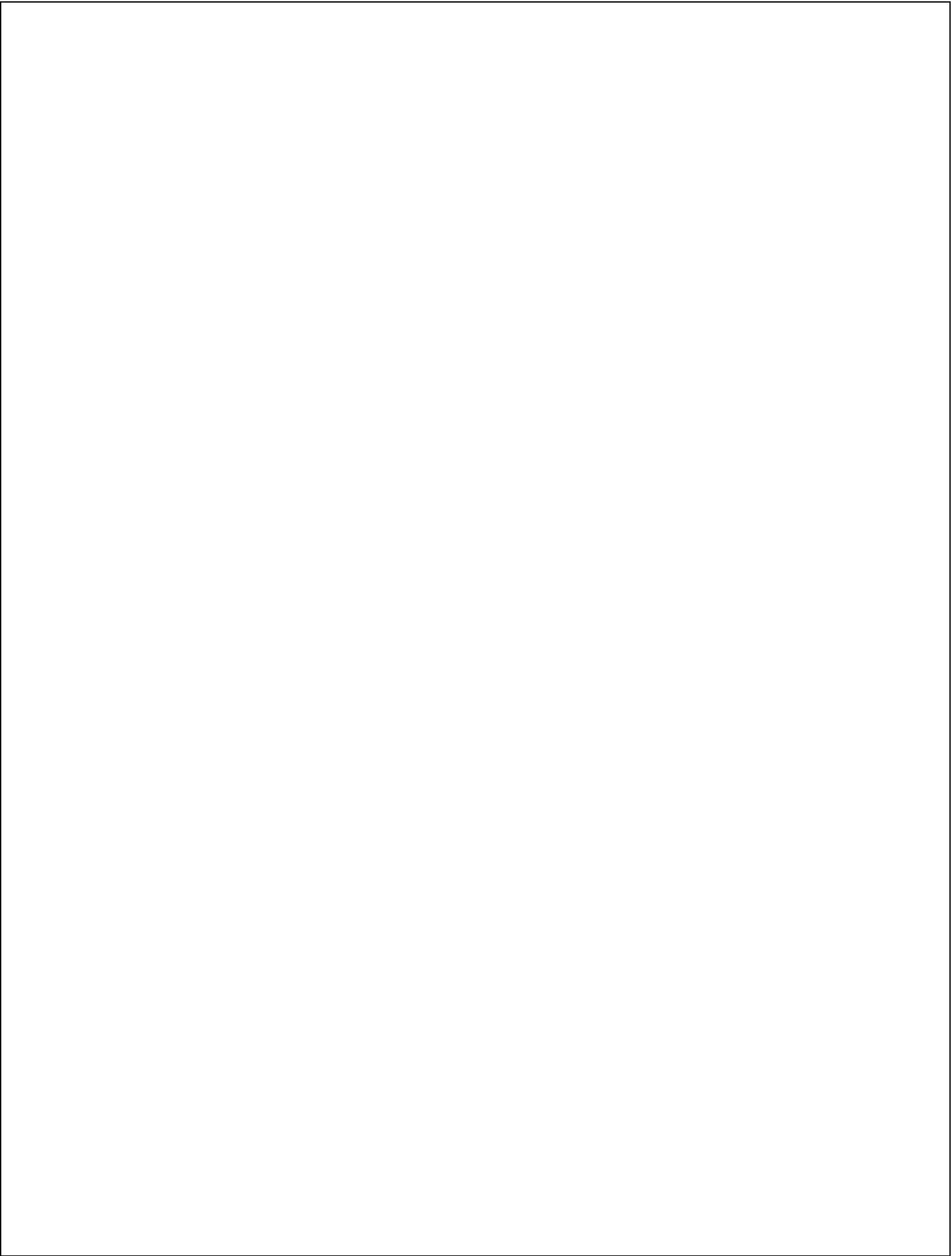
### **A. Methodology:**

The proposed project requires construction work, which will be subcontracted to a private company. The subcontractor will be selected through a transparent procurement process, and the subcontractor will complete the required activities under the supervision of the municipality and RAMP UP-North.

### **B. Goods and Services Provided by RAMP UP-North:**

A subcontractor will be selected for the Construction of the Bus Terminal, which includes the following activities:

- Site preparation, including cutting, normal filling h=30cm, base course filling h=20cm, leveling, watering and compaction of 5461 m<sup>2</sup>,
- Construction of boundary wall of 291m length,
- Construction of a 317.82 m<sup>2</sup> Bus Station,
- Construction of a 123.57 m<sup>2</sup> Waiting Hall for Travelers,
- Construction of 64.88 m<sup>2</sup> of sidewalks and construction of 44.73 m RCC drainage.



**C. Goods and Services Contributed by Municipality (estimated value of \$ 73,551 USD):**

Cost Estimation for Goods and Services Contributed by Municipality (Bill of Quantities)						
No	Item	Quantity	Unit	Unit cost	Total cost	Remarks
				AFA	AFA	
1.0	Construction of 4 cabins latrine, two cabins for women and two for men at the land of 36.9m2. The activities include: excavation for foundation, stone masonry 1:4, back filing, Plain Cement Concrete M 1:2:4, brick masonry work 1:4, Reinforcement Cement Concrete 1:1.5:3, pointing work 1:3, plastering work 1:5, tiles and mosaic work 1:3, supplying and installation of water and sewer system, supplying and installation of complete water proof electrical system. Supply and installation of (water closed (Komodo), sink, gutters, floor drain, wooden frame doors and windows including glasses, handrail, insulation (Ezogam). 100% plastic painting 3 coats interior and exterior of the building. Construction of RCC septic tank with 3m X 2.5m X 3m with all required activities based on drawings. (See drawings and BoQ)					
1.01	Excavation for foundation in earth type 3 with all requirement	6.700	m3			
1.02	Back filling with common dust including watering and compaction	7.700	m3			
1.03	Base course material under the Plain Cement Concrete PCC including watering and compaction	3.100	m4			
1.04	Plain Cement Concrete "PCC" 1:2:4 under foundation and floor curing at least for 14-18 days and cold climate 28 days with all required activities	6.800	m3			
1.05	Stone masonry work 1:4 with all required activities curing at least for 14-18 days and cold climate 28 days	10.25	m3			
1.06	Pointing of stone masonry with mortar ratio - 1:3 with all required activities.	25.15	m2			
1.07	Bricks masonry walls, the work covered by this item shall consist of supplying and laying burnt bricks on the top of the super stone masonry. Bricks shall comply with requirements of first class bricks. The burnt bricks masonry shall be done by 1:4 ration of cement mortar.	21.7	m3			
1.08	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 footings, columns, rings, beams and slab with shuttering and steel bar best quality of steel, cement, (375kg per m3) clean coarse sand and crushed gravel ≤32mm mixing the aggregate, placing and form works, curing at least for 14-18 days and cold climate 28 days	44.90	m3			



1.09	Plaster of the interior walls, outside walls and ceiling with M1:5, should be consist from (12-20) mm thick and all required activity.	159.00	m2			
1.10	Providing and installation of handrail including two coat oil painting and other required activities	5.50	m			
1.11	Supply and installation interior water supply and sewer system connection to the building and connection of sewer system to the septic tank complete (all fittings and pipe for sewer system all pipe should be class D best quality water supply pipe should be form PPR pipe class D, send bed , caution tap ,and also insulation of all pipes Man hole and hand hole also include in this item ) with it's all related activities and technical specification	1.00	lump sum			
1.12	Supply and installation of floor type tile T=10mm min and wall type tile T=9mm min with 1:3 mortar of cement and sand T=3cm with it's all related activities according to the drawing and technical specification	80.80	m2			
1.13	Supply and installation of Interior Electric system for the proposed building latrine with all (different size conduits , different wires and cable , MPD SDPBS, join box, circuit breakers different size , different switches, sockets, grounding, ventilator, fuse, fuse box , lamps and other item which complete the electric system. also 120m cable 3X12mm2 from main switch up to the terminal area and with meter machine 20/120	1.00	lump sum			
1.14	Supply and installation of flat water closet complete set toilet (Komodo) best quality with it's all related activities and technical specification	4.00	Set			
1.15	Supply and installation of water top good quality for (Wozo khana) with it's all related activities and technical specification	4.00	Set			
1.16	Supply and installation of wooden frame Doors and Windows complete with glass, painting and all related activities	18.56	m2			
1.17	Roof Insulation and sealant (Ezogam), best quality.	61.10	m2			
1.18	Three coats plastic painting for Interior and exterior walls ceiling and RCC ring with it's all related activities according to the drawings and technical specification	159.00	m2			
1.19	Construction of RCC Septic tank with all required activity, "excavation, RCC 1:1.5:3 walls, footings and slabs, brick masonry wall 1:4, plastering work 1:4, isolation and backfilling based on the drawing and technical specification (3*2.5*3)m.	1.00	lump sum			
2.0	<b>Construction of Semi deep well depth 50m and 12 inch diameter, activities included: digging by Percussion machine "Coba" filtration, compressor, supply and installation of casing pipe 6 inch class C, supply and installation zinc pipe 1.5 inch best quality, supply and installation of Italian submersible water pump 1 inch 2-faz, supply and installation of water tank 1500 liter capacity with all required activities, supply and installation of cable and zinc wire for hanging water pump and providing a metal secure box for well. Supply and installation of one outside water tap with all activities. (See the drawings)</b>					

2.01	Digging one number Semi deep well (50m semi deep and 12 inch diameter).	50.00	m			
2.02	Filtration and compressor with all required activities	1.00	lump sum			
2.03	Casing PVC 6 inch, class C best quality.	51.00	M			
2.04	Zinc pipe 1.5 inch in the deep well and from well to water tank and latrine system.	70.00	m			
2.05	Supply and installation of electrical submersible Italian water pump 1 inch with related goods	1.00	No			
2.06	Supply and Installation of plastic water tank (1500 liter capacity and insulation, piping works, over flue, valve, wash pipe, foundation work and put a tap near to well and secure metal box with all other required activities.	1.00	Each			
2.07	Cable for Semi deep well water pump best quality	100.00	M			
2.08	Zinc wire Cable to hang water pump	47.00	M			
3.0	<b>Construction of 7 shops with 105m2, restaurant with 60m2, which is included (excavation for foundation, stone masonry 1:4, back filing, Plain Cement Concrete "PCC" 1:2:4, brick masonry work 1:4, Reinforcement Cement Concrete "RCC" 1:1.5:3, pointing work 1:3, plastering work 1:5, supplying and installation of electrical system, supply and installation of 86.4 m2 stretchable doors , supply and installation of 94m2 10mm glass door with aluminum frame, and windows with all activities, supply and installation of Isogam on roof, 100% plastic painting interior and exterior of the building based on drawings ) and two Trash bins.</b>					
3.01	Excavation for foundation	46.84	m3			
3.02	Plain Cement Concrete "PCC" 1:2:4 with all required activities	9.13	m3			
3.03	Stone masonry work with mortar 1:4 with all required activities	52.24	m3			
3.04	Pointing of stone masonry with mortar ratio - 1:3 with all required activities.	62.16	m2			
3.05	Back filling with specific material	123.29	m3			
3.06	Stone pitching from stone 15-20cm thickness	41.81	m3			
3.07	Brick masonry work with mortar 1:5 for walls and stairs with all required activities	70.56	m3			
3.08	Reinforcement Cement Concrete "RCC" 1:1.5:3 for slabs, rings, foundation, pillars and picks with cement mortar 1:1.5:3 with all required activities	78.18	m3			

3.09	Plaster of the interior walls, outside walls and ceiling with M1:5, should be consist from (12-20) mm thick and all required activity.	788	m2			
3.10	Providing and installing chaps concrete on restaurant floor with nice designing	68	m2			
3.11	Providing and installation of electrical system in clouding all conduit, line, cables, switch, socket, lamp, fan, kindlers, and other activities complete	1	lamb sum			
3.12	Providing and installation of ezogam one layer	256.78	m2			
3.13	Painting work all part of the building interior and exterior with Homix 100% paint	788	m2			
3.14	Providing and installation of stretchable gate for shops and restaurant	91	m2			
3.15	Installation of wooden door for kitchen of restaurant with all requirements as per drawing and specification	2.8	m2			
3.16	Installation of wooden window for Restaurant with 4mm glass and requirements as per drawing and specification	6.4	m2			
3.17	Providing and installation metallic frame with 4mm glass for shops and restaurant doors.	77.42	m2			
3.18	Installation of metallic Trash bin with all requirements as per drawing.	2	Nos			
<b>Estimated Value of Goods and Services Contributed by Municipality in USD:</b>						

All subcontractors for RAMP UP North activities are required to hire local laborers for all unskilled labor positions. These laborers will be hired from within the community of the nearby villages and beneficiaries of RAMP UP-North activities. The subcontractor shall be responsible for providing documentation of the number of both skilled and unskilled laborers and number of days worked.



### Cost Estimation for Goods and Services Contributed by RAMP UP-North (Bill of Quantities)

No	Item	Quantity	Unit	Unit Cost	Total Cost	Remarks
				AFA	AFA	
1.0	Site preparation "cutting, normal filling h=30cm, base course filling h=20cm, leveling, watering and compaction with 5461 m2".				0.00	
1.01	Grading and Filling bus terminal area with common soil with 60cm thickness including compaction layer by layer each 20 cm and transportation cost.	3600.40	m3		0.00	
1.02	Laying base course material on bus terminal general area with 20cm thickness and compaction (with 10T machine) and watering according technical specification (50 % well graded crashed aggregate, 30% sand and 20% suitable soil including transportation and all required activities)	1024.34	m3		0.00	
2.00	Construction of boundary wall 291m length, including excavation for foundation, Plain Cement Concrete "PCC" work 1:2:4, stone masonry work 1:4 upper and down the ground, pointing work 1:3, reinforcement cement concrete "RCC" 1:1.5:3 with shuttering, steel bar, curing at least for 14-18 days and cold climate 28 days and plastic painting, supply and installation of gates and fence 140m with best fully welded and clean painting.				0.00	
2.01	Excavation of foundation in earth type 3 with all requirement	61.11	m3		0.00	
2.02	Plain Cement Concrete "PCC" work under stone masonry wall with cement ratio 1:2:4	10.19	m3		0.00	
2.03	Stone masonry work with mortar 1:4 with all required activities including some backfilling base on the site.	285.18	m3		0.00	
2.04	Providing and installation of fence including two coat oil painting and light on every two pillar with cabling, cover sheet and original 40w light best quality see fence detail and drawings	291.00	m		0.00	
2.05	Pointing of stone masonry with mortar ratio - 1:3 with all required activities.	731.70	m2		0.00	
2.06	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 footings, columns, rings with shuttering and steel bar best quality of steel, cement, (375kg per m3) clean coarse sand and crushed gravel ≤32mm mixing the aggregate, placing and form works, curing at least for 14-18 days and cold climate 28 days including plastering and painting.	30.85	m3		0.00	
2.07	Gate with all required activities as per drawing and specification	27.40	m2		0.00	
3.0	Construction of 317.82 m2 Bus Station include: roof frame with cover GI sheet 0.5, base course floor, posts 14 x14 cm T= 3mm, excavation, steel net, PCC under the footing of RCC based on the drawings.				0.00	
3.01	Excavation foundation of footings in soil type 3 with all requirement	8.064	m3		0.00	

3.02	Plain Cement Concrete "PCC" work under footings foundation cement ratio 1:2:4	0.896	m3		0.00	
3.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 for footings include: shuttering and best quality steel bar, cement, 375kg per m3 putting nut and bolt from bar 22mm in footing based on the drawings.	5.15	m3		0.00	
3.04	Supply and installation of steel net for behind and half side of bus garage with wire 3mm and mesh size 5X5cm.	67.20	m2		0.00	
3.05	Roofing work including (roofing frame profile 100X50X2mm and 50X50X1.5mm and 80X40X1.5mm, cover G.I sheet 0.5mm with screw and gasket rubber washers each 50cm C/C and 3 coat anti rust & oil painting and gutters, steel sheets in two side of the tube beams and tube columns and the bottom of the columns with specific nut and bolt steel bar 22mm, posts should double C-channel (16 x 6.5 cm) based on drawing and specification.	317.82	m2		0.00	
4.0	<b>Construction of 123.57 m2 Waiting Hall for Travelers include:(roofing and truss frame profiles cover G.I sheet 0.5mm with screw and gasket rubber washers in each 50cm C/C. 3 coats oil paints and gutters. Posts profile 14 x 14 cm and thickness 3mm. Excavation for foundation, PCC and RCC footings putting 4 nut and bolt in each footing from bar 22mm. Supplying and installation of metal benches and Chinese ceiling based on the drawings).</b>				0.00	
4.01	Excavation for footings foundation in soil type 3 with all requirement	5.760	m3		0.00	
4.02	Plain Cement Concrete "PCC" work for floor and under the foundation of footing cement ratio 1:2:4	10.640	m3		0.00	
4.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 footings with shuttering and steel bar best quality of steel, cement, 375kg per m3 putting nut and bolt 22mm in footing based on the drawings.	3.52	m3		0.00	
4.04	Roof work from different profiles as per design, double C-channel (16x 6.5 cm), cover G.I sheet 0.5mm with screw and gasket rubber washers each 50 cm C/C. Entire frame should be best quality 1.5mm and 1 coat anti rust and 3 coat oil painting. Supply and installation of gutters, supporting plate, nut and bolt from steel bar 22 mm, and Chinese ceiling based on the drawings with all required activities.	123.57	m2		0.00	
4.05	Supplying and installation plotline high pressure pipe with 20cm dia for water drainage for waiting hall. Should be completed with all activities like excavation, pipe installation, back filling and ventilation	17.00	m		0.00	
4.06	Providing and installation of 22.2 meter wooden metal bench, 40cm wide and 40cm high from ground. Should have 50% wooden plank (section size 20x4 cm) including PCC for footing, and painting with all required activities see detail in drawings.	22.86	m		0.00	
5.0	<b>Construction of Sidewalks 64.88 square meter activity include: lining, filling base course material, PCC M 1:2:4, normal slope 1% and supply and installation of grills on top of drainage base on drawing and specification.</b>				0.00	

5.01	Base course material under side walk concrete including lining, watering and compaction	12.93	m3		0.00	
5.02	Plain Cement Concrete "PCC" 1:2:4 with all activities shutting, watering and brushing	6.20	m3		0.00	
5.03	Supply and installation of grills based on the drawing.	12.10	m		0.00	
<b>6.0</b>	<b>Construction of 44.73 m RCC drainage including " excavation for foundation, laying base course materials, steel bar working, shuttering work with best plank, Reinforcement Cement Concrete "RCC" 1:1.5:3 for walls and floor curing at least for 14-18 days and cold climate 28 days</b>				<b>0.00</b>	
6.01	Excavation for foundation in earth type 3 with all requirement	19.680	m3		0.00	
6.02	Base course material under drainage concrete including watering and compaction	1.790	m3		0.00	
6.03	Reinforcement Cement Concrete "RCC" (1:1.5:3) M:200 for walls and floors with shuttering and steel bar best quality of steel, cement, 375kg per m3 curing at least for 14-18 days and cold climate 28 days based on the drawings.	6.62	m3		0.00	
<b>7.00</b>	<b>Branding + opening and closing ceremony</b>	<b>1.00</b>	<b>LS</b>		<b>0.00</b>	
<b>Estimated Cost of Goods and Services Provided by RAMP UP-North:</b>						



## **V. Involvement and Leadership of Municipal Staff in Project Selection, Development, Implementation & Monitoring and Evaluation:**

On February 12, 2013, a joint meeting of Andkhoy citizens and the Municipality (30 participants, all male, including 21 citizens and 9 municipal officials, including the Mayor) was held to identify Round 1 projects. The participants prioritized and selected the construction of a bus terminal as the first priority of Andkhoy Municipality.

The RAMP UP North Embedded Advisors explained and briefed participants about the concept and sustainability requirements for the projects. After discussion among the participants and the Andkhoy Mayor, the majority of the participants along with the Mayor prioritized and selected the construction of a bus terminal as the highest priority for the Andkhoy Municipality and citizens.

After the selection of the Bus Terminal project, the Mayor and municipal officials along with representatives for Andkhoy citizens visited the proposed area for the bus terminal and developed the list the proposed activities for the implementation of the Bus Terminal Construction Project.

Municipal officials have been engaged in the development of the project proposal, and they committed to be involved in the implementation, monitoring, and evaluation of the project. The Construction Manager, the Property Manager, and the Mayor have been involved in the overall development of the sub-project proposal.

As part of the development of the sub-project proposal, the Mayor and the Construction Manager have also committed to monitor and evaluate the construction phase of the Bus Terminal Project.

## **VI. Level of Public Participation:**

As noted above, the citizens and the municipality selected the Bus Terminal project as their first priority during a meeting held on February 12, 2013, attended by 30 participants (all male, including 21 citizens and 9 municipal officials, including the Mayor). During a follow-up meeting, a Project Beneficiary Group (PBG) was established of bus drivers and leaders of bus agencies, and members discussed the SDIP and proposed scope of work. During each step of the process, representatives from the citizens and the PBG were actively consulted on project planning and design.

Citizens and PBG members committed to play an active role during project implementation by monitoring and overseeing of the work progress and revenue collection after project completion, which will help to sustain the maintenance of the bus terminal.

## **VII. Activity Objectives:**

1. Improve communication and relationships between the Mayor/municipal officials and citizens.
2. Improve the participation of citizens in decision-making processes related to the planning, design, implementation, and monitoring of municipal services.
3. Improve and increase the level of service delivery in terms of bus terminals.
4. Improve the public's perception of the municipality's ability to deliver sustainable services.
5. Increase revenue generation and the sustainability of municipal service delivery from a public private partnership to operate the bus terminal.
6. Improve public health and the cleanliness of the environment for travelers using the bus terminal.
7. Reduce traffic congestion and traffic accidents.

## **VIII. Sustainability and Maintenance:**

### **Municipality and Citizen Contribution (After Project Completion):**

The municipality and citizens will work together to monitor the cleanliness of the bus terminal, as well as work on public outreach activities to educate the public on the importance of sanitary behavior in the bus terminal following a consultation with project beneficiaries.

### **Revenue Enhancement:**

It is anticipated that by constructing the bus terminal, municipal revenue will increase from the following main sources:

- Through the lease of the bus terminal operations to the private sector;
- Through renting the shops in the bus terminal;
- Through leasing the latrines in the bus terminal to the private sector and;
- Through leasing the restaurant/coffee shop to the private sector.

**SUSTAINABILITY ANALYSIS**  
**FOR**  
**(Construction of Andkhoy Bus Terminal)**

MONTHLY AND ANNUAL REVENUE GENERATION				
Item	No	Unit Cost (USD)	Total Revenue Monthly (USD)	Total Revenue Annually (USD)
Shops	7	40	280	3,360
Latrine	100 users per day	0.10	300	3,600
Restaurant	1	100	100	1,200
Vehicle Parking (Bus)	10 users per day	2	600	7,200
<b>Total Revenue Monthly and Annually (USD)</b>			<b>1,280</b>	<b>15,360</b>

MONTHLY AND ANNUAL O&M EXPENSES					
Description	Unit	Monthly Salary	Quantity	Total Cost/Month (USD)	Total Cost/Annual (USD)
Chawkidar/Guard	Persons	100	2	200	2,400
Maintenance costs, black water removal and electricity bill	LS		1	200	2,400
Cleaner for the latrine	Persons	100	1	100	1,200
<b>Total</b>				<b>500</b>	<b>6,000</b>

REVENUE GENERATION ANALYSIS				
Monthly Revenue (USD)	Less Monthly O&M Expenses (USD)	Less Monthly Contractor Profit (USD)	Monthly Municipality Net Revenue (USD)	Annual Municipality Net Revenue (USD)
1,280	500	200	580	6,960

## **IX. Capacity Development:**

The project will help to develop the capacity of municipal officials and staff by applying a learning-by-doing approach in terms of planning, implementing, monitoring, public outreach and managing the project.

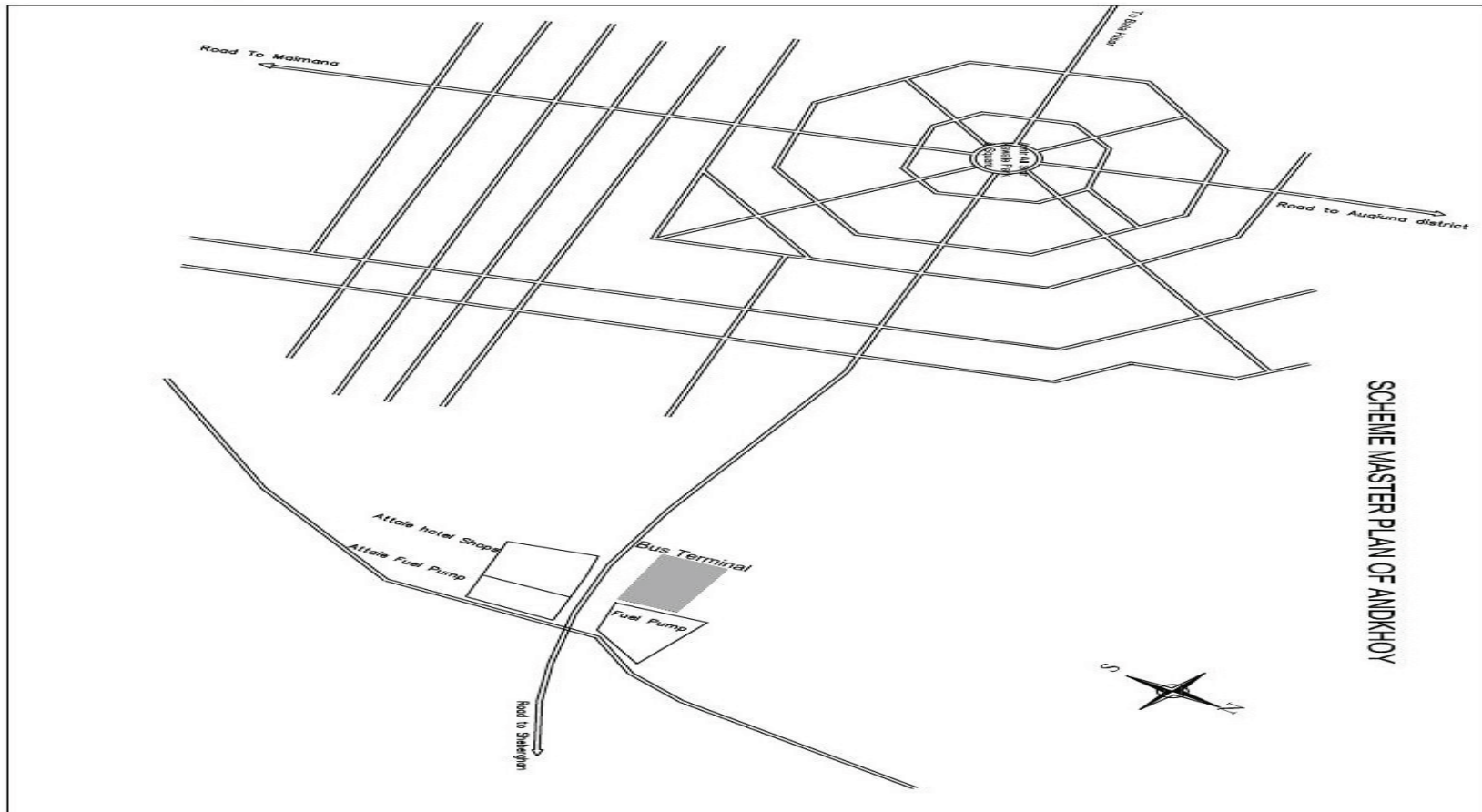
- Project management,
- Project procurement,
- Public works,
- Project monitoring,
- Public outreach, to educate the public on the importance of sanitary behavior in relation to the bus terminal.

## **X. Unique Aspects of Project:**

- The project will address traffic problems in the municipality.
- The project will have the potential for developing additional public-private partnerships.
- The construction of this bus terminal and the latrines will also improve public health and the cleanliness of the municipal environment.



## XI. Sketch:



## XII. Photos: Pre-Implementation:







### XIII. Conceptual Drawings – Post-Implementation:





